

# AMERICAN ARTISAN and Hardware Record

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## Greetings

for

## A Happy New Year

LET us resolve that in this New Year of 1920 we shall make the most of time; that we shall be justly proud of each day's work and happy at the prospect of the labors of tomorrow; that we shall carry happiness with us into our business lives and show a joyous heart to our friends and neighbors.

LET us resolve to make each day find new progress made toward the goal of our ambition so that at the end of the twelve months before us we shall find our work better work, our lives better lives and ourselves better men.

WE appreciate your friendship for us and trust that a goodly share of the New Year's prosperity shall be yours.

THE SCHILL BROTHERS COMPANY  
CRESTLINE, OHIO

# CALORIC PRICES DOWN

HEATING  
HEADQUARTERS



LARGEST MANUFACTURERS OF WARM-

ESTABLISHED 1880

Representative of  
The Hardware, Stove,  
Sheet Metal, and Warm  
Air Heating and Ventila-  
ting Interests  
PUBLISHED EVERY SATURDAY

# AMERICAN ARTISAN and Hardware Record

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ONE OF THE BUSIEST corners in Chicago is at the intersection of Sixty-third and Halsted Streets. A few years ago, the neighborhood was made up chiefly of cabbage fields. The property which today sells for thousands of dollars per lot could be bought for one hundred dollars an acre or less. There are men still in their prime who talk regretfully of the opportunities which they missed in not being able to foresee the developments now in force. Vast fortunes have been made by those who had the vision to foresee the marvelous growth of that portion of the city. No blame attaches to the citizens who were unable to forecast the enormous increase of land and values which has rendered the property so valuable. Indeed, it is not difficult to find parallel examples in every center of industry. The element of speculation deters many from investing in the hope of large returns.

#### Profit for Next Year.

If the people of a generation ago could have been morally certain of the precise lines along which property values were to evolve in any particular district of a city, they now would be clipping coupons and counting their income in ease and comfort. Natural skepticism, intensified by fears of the uncertainties of the future, is responsible for failure to take advantage of opportunity. There are no such excuses, however, for the stove dealer who fails to make provision for next year's profits by sending his orders for stock to the manufacturers with the least possible delay.

Already an advance of ten per cent in the prices of stoves has gone into effect. This advance barely covers the increase in wages of the stove molders, which is merely a single item in the sum of producing costs. Materials are becoming more expensive. Pig iron is growing dearer. Manufacturers of stoves and warm air heaters will be compelled to advance their prices to retailers if there is no reduction in the cost of material. That is to say, in addition to the ten per cent increase already necessitated by higher wages, there is likely to be an augmenting of prices to cover the additional costs of manufacture and distribution. The wages of workmen and skilled mechanics will continue to advance as a matter of necessity to keep pace with the rising cost of living. These are facts which it is useless to deny.

However much we may denounce the general increase of prices, we can not escape their consequence. It seems almost a waste of words to say that no profit is derived from goods which one does not possess. Therefore, the dealer who looks ahead and makes plans for next year's business must have as his first

consideration the obtainment of a sufficient supply of commodities to meet the demand of his customers. It behooves him to buy now, before the next advance in prices. His profit will be that much greater—and he will need every penny of it in order to maintain a reasonable net income for his business during the next twelve months. Too much emphasis can not be placed upon this advice to dealers in stoves and warm air heaters.

To recapitulate: Wages have gone up. Pig iron is becoming more costly. Overhead expenses must be added to the selling price of the product and overhead expenses are also increasing. As in the case of the property at Sixty-third and Halsted Street, no one knows for certain what the value and price will be six months from now. But there is every indication that they will be greater than they are today. Therefore, dealers run greater risks of loss of business and profit by failing to make provision in time for next year's business. The wise thing is to buy now and to buy in quantities ample enough to meet all requirements.

IN THE REFECTORIES of the Middle Ages no conversation was permitted during meals. Eating was a solemn function. Life was viewed as

A Joyous a penitential pilgrimage. The favorite  
New Year. text from the ancient scriptures was:

"It is better to go to the house of mourning than to go to the house of feasting." One searches in vain for laughter and merriment in the art or literature of the times. Preachments of the wrath to come were more numerous than exhortations to gladness. Only a small fraction of the people knew how to read and write. The sanitary conditions of the cities were appalling. In consequence, epidemics were of frequent occurrence. All through the centuries the dominant thought has been patiently to bear the ills of life in the hope of escaping the torments of the nether world.

The founders of the American republic were the first to embody in the conception of government that its supreme purpose is to promote the happiness of the people. They were concerned with the peace, comfort, and prosperity of our present existence. Universal education, sanitary plumbing, steel rails, production by machinery in quantities vast enough to supply the whole nation, scientific agriculture, prolongation of the average term of life through improvements in food, housing, and hygiene, are some of the things which make "the pursuit of happiness" much

easier for us than it was for Washington, Jefferson, Franklin, and their contemporaries.

An impartial study of the evolution of civilization will disclose the fact that science, commerce, and culture have always advanced in proportion to the spread of happiness among the folk. Pessimism is fatal to a nation's development. As a philosophy of life nothing contributes more to the upbuilding of business—and, therefore, of good citizenship, order, and tranquillity—than a sane and constructive optimism. Cheerfulness is tonic, alike to nations and individuals. We shall solve the problems of social unrest and overcome the difficulties which beset the task of industrial reconstruction if we free our minds from gloom and worry and face the future with stout hearts and a blithe spirit. In wishing a Happy New Year to all its readers, *AMERICAN ARTISAN AND HARDWARE RECORD* would put the strongest accent upon happiness as the paramount motive of every improvement in the social and industrial relations of our country.

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CONCERNING THE AMERICANISM of Ole Hanson, the former mayor of Seattle, Washington, who successfully fought the radicals of his city,

**Education  
Remedy of  
Radicalism.**

there is no room for doubt. In a recent lecture he declared that ideas can not be offset by machine guns or physical force. He pleaded for community centers and education in the principles of our democracy. Laws are powerless to suppress thought. The people must be instructed along right lines in order that their minds may operate in harmony with correct notions of freedom and progress. This view of the matter finds expression in *Commerce Monthly*, the organ of the National Bank of Commerce, New York City.

"We can no longer expect to defend the fundamentals of our present social order by obstinately 'standing pat' on constitutional law," is its declaration. "It is no satisfactory answer to the social radical to say that our institutions are grounded in court decisions. Men are no longer willing to settle social and economic issues on such grounds. The test now being urged is that of social expediency and social welfare."

The writer reasons that it is no valid defense of the fundamentals of the present social order to say that they are lawful, that they are established in constitutional law, that they are established in court decisions, that they are established by long custom. The time is past when men are willing to draw their conception of justice from lawyers or from ancient custom. Institutions must stand on their own merits, and they must be tested by the fundamental test of social welfare. Do they, or do they not promote the well-being of society? They do. Private property, for example, corresponds first to a fundamental instinct, the instinct of acquisition, the instinct of possession.

As man is constituted he desires to own and to hold things. It is by appeal to these elementary things in human nature that we draw out men's energies. The desire for private property is one of the most powerful agencies in spurring men to effort that can be found. Men will work harder for their personal ends

than they will for general public ends. Men will take better care of their own property than they will of what belongs to the group as a whole.

A system in which each man is made responsible for his own welfare and the welfare of his family leads to far greater effort on the part of men than any other system known. Industries run by governments are, in general, far more wastefully conducted than are industries run by private individuals whose profits depend on the outcome of the operations.

Exceptions can be found among some municipal enterprises, in which the activity under observation is relatively simple and comprehensible, but few exceptions can be found among the enterprises conducted by great governments. Whatever else we may seek to do in improving the social order, we must not do anything which will lessen the efficiency of production. The fundamental fact in the whole social problem is the fact that we do not now produce enough.

This does not mean, however, that all phases of private property and all of the rights connected with private property should be regarded as sacred and not subject to criticism. Private property should be subject always to public regulation and subordinated to the public interest. In a great city, a man should not be allowed to put up a high building in such manner as to cut off light and air from his neighbors. We do not allow men to maintain public nuisances upon their private property. In arid and semi-arid regions, the rights to streams flowing through a piece of land are subject to the larger common need.

If private property is needed for public use, it may be taken either by taxation or under the rules of eminent domain. Again, how far is the unlimited right of bequest or inheritance an essential part of private property right? And again, is it necessary in order for us to get the best out of private property for social purposes that fortunes should be allowed to grow to unlimited size? These are questions about which we may well ponder.

As our system of government is constituted, there is ample provision for the peaceful and orderly exchange of ideas upon these vital topics. The people are the source of all power. They can change and improve their own industrial and social conditions by concerted action through the existing machinery of government. That men engaged in so apparently conservative a business as that of banking do not hesitate to express their views along these lines is the best assurance we have that our country is not losing ground in the march of progress.

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TO USE THE SAME selling arguments for every customer is like having the same size of hat for every head. The successful clerk is the one who avoids the habit of repeating word for word an explanation of the quality and uses of a particular commodity. A mechanic who buys a washing machine for his wife will listen with interest to a description of its structure and operation. He will appreciate the cogency of reasons why a certain type of mechanism adds to the efficiency of the washer and prolongs its usefulness. But it would be a waste of time to talk to the

**Needs New  
Arguments.**

average woman buyer about bevel gears, clack valves, toggle joints, and cams. For her the best argument would be that the washing machine is easy to manage, quick in operation, simple in its parts, and certain not to tear or wear the clothes.

### RANDOM NOTES AND SKETCHES.

By Sidney Arnold.

A wise man plans the future. He sets his house in order. He makes appraisal of his resources—personal and otherwise. Thus he is able to perceive parts of the structure of his life which need strengthening. He does not put off to some vague, indefinite day making the repairs and improvements which will enhance his character and increase his power for good. New Year's is as good a time as any other for doing this necessary work of inventory and revaluation. Most of us will find that the thing of greatest urgency is the cutting out of worry, despondency and certain occasional touches of peevishness. The best resolution, and one which really embraces all others, is to make up our minds to adopt as a slogan of our business and personal relations and to practice "Happy Days!"

\* \* \*

My friend, Joe Chandler of Republic Metalware Company, Chicago, Illinois, visited my office for a few minutes this week, to wish me the joys of the season.

\* \* \*

My friend Alex Glass of Whitaker-Glessner Company, Wheeling, West Virginia, gets lots of fun out of the following incident:

During an epidemic in a small Southern town every infected house was put under quarantine. After the disease had been checked, an old negress protested vigorously when the health officers started to take down the sign on her house.

"Why, Auntie," exclaimed the officer, "why don't you want me to take it down?"

"Well, sah," she answered, "dey ain' be'n a bill collectah near dis house sence dat sign went up. You-all let it alone!"

\* \* \*

Children have no instinct for social pretence or subterfuge, declares my friend George F. Fiske of the American Stove Company, St. Louis, Missouri. He narrates the example of the Simpsons:

Mr. Brown, the architect, had been invited down to the Simpsons to display the plans of Simpson's new house to some guests.

"Now," exclaimed Mr. Brown, "here is the front elevation," and he pointed it out on the plans he laid on the library table for the inspection of the visitors. "With the outside window and the circular gallery here; and this the east elevation, showing the tower."

Various comments were made by the guests, and then little Clarence, aged eight, who was greatly interested in the new house, chipped in with:

"And where are the two mortgages father said he was going to put on?"

\* \* \*

One of the tests of a blithe spirit is the power to appreciate a good pun, declares my friend J. C. Beggs

of Bemis and Call Hardware Company, Springfield, Massachusetts. He offers material for the test in this bit of dialogue:

Mabel—"How are you getting along at college, Percy?"

Percy—"Oh, all right. I'm trying awfully hard to get ahead, you know."

Mabel—"Well, heaven knows, you need one!"

\* \* \*

My friend Tom Usher, of the Chicago office of the Russell and Erwin Manufacturing Company, New Britain, Connecticut, says that there will be lots of people in heaven just as much surprised to see you there as you will be to see them there.

\* \* \*

Here is a good story related by my friend F. M. Ruddell, Secretary-treasurer and General Manager of Globe Stove and Range Company, Kokomo, Indiana:

A woman missionary in China was taking tea with a mandarin's eight wives. The Chinese ladies examined her clothing, her hair, her teeth, and so on, but her feet especially amazed them.

"Why," cried one, "you can walk and run as well as a man."

"Yes, to be sure," said the missionary.

"Can you ride a horse and swim, too?"

"Yes."

"Then you must be as strong as a man!"

"I am."

"And you wouldn't let a man beat you—not even if he was your husband—would you?"

"Indeed, I wouldn't," the missionary said.

The mandarin's eight wives looked at one another, nodding their heads. Then the oldest said softly:

"Now I understand why the foreign devil never has more than one wife. He is afraid."

\* \* \*

At a banquet a few evenings ago, my friend Fred Biffar, the sporting goods man of Chicago, Illinois, was called upon for a speech and replied thus:

"This is quite unexpected; in fact, when I came into this room I felt much like Daniel in the lions' den. When Daniel got into that place and looked around he thought to himself, 'Whoever's got to do the after-dinner speaking, it won't be me!'"

\* \* \*

One of the words most frequently used in the business world today is "pep." Some persons find it hard to define in distinct terms. For their benefit, the following verses of Grace G. Bostwick are reprinted:

#### The Meaning of "Pep."

Vigor, vitality, vim, and punch—

That's pep!

The courage to act on a sudden hunch—

That's pep!

The nerve to tackle the hardest thing,  
With feet that climb, and hands that cling,  
And a heart that never forgets to sing—

That's pep!

To say "I will"—for you know you can—

That's pep!

To look for the best in every man—

That's pep!

You'll get the best of the whole darned show—  
To meet each thundering knock-down blow,  
And come back with a laugh, because you know  
That's pep!

## UP TO THE MINUTE NEWS SIFTINGS

### STOVE SALESMEN'S ASSOCIATION OF PENNSYLVANIA HOLDS ANNUAL RECEPTION AND BANQUET.

Prophets of gloom would have found themselves as much out of place at the Twenty-second Annual Reception and Banquet of the Stove Salesmen's Association of Pennsylvania in Hotel Walton, Philadelphia, Pennsylvania, Wednesday evening, December 17, 1919, as a head-hunting Igorrote in a convention of geologists. What the poet Tennyson called "the mighty hopes that make us men" dominated the gathering. The members of the Stove Salesmen's Association of Pennsylvania are optimists. They believe in American institutions. Their hopes of bigger achievement in every line of national endeavor are the mighty hopes of men who are deeply conscious of the power of our people. They conjure up no fantastic dreams of a millennium. But they shape their hopes out of the sound substance of daily realities of American ingenuity in science, art, and craftsmanship.

The buoyancy of spirit, the cheerfulness, the jollity and the kindly merriment which made the reception and banquet a feast of fellowship were not put on as a garment—an unaccustomed vesture worn for the occasion—but part of the texture of the men themselves, inwoven with the fiber of them. The gaiety of the evening owed none of its heartiness to other stimulus than that of kinship of ideas and aspirations.

The exigencies of travel often make it necessary for stove salesmen to stay the pangs of hunger with divers sorts of food more suitable for penance and mortification than for nourishment. Hence, the Entertainment Committee—consisting of James R. Wotherspoon, Chairman, William F. Habicht, and Harvey J. Fueller—gave special attention to providing a menu which would remain in the memory of the diners and sustain their hopes between now and the next annual banquet. Here it is:

#### Menu.

Hearts of Celery	
Ripe and Queen Olives	
Grape Fruit Maraschino	
Cream of Tomatoes with Tapioca	
Filet of Sole Joinville	
Half Squab Chicken	
Roasted and Stuffed	
Browned Sweet Potato	
	Small Peas in Cream
Fancy Ice Cream	Assorted Cakes
Demitasse	
Between courses, the members and their guests	

joined in the singing of the collection of songs arranged by the War Camp Community Service and Community Service of Philadelphia.

Practically all of the officers of the Stove Salesmen's Association of Pennsylvania for the year 1919



Frank S. Hawken, Newly Elected President, Stove Salesmen's Association of Pennsylvania.

were present as well as all but three of the members of the various committees. The roster of officers for 1919 is as follows:

#### Officers for the Year 1919.

President: George H. Rotz,  
First Vice President: John McConville,  
Second Vice President: William H. Young,  
Third Vice President: Frank S. Hawken,  
Recording and Financial Secretary: James McGaw,  
Treasurer: O. M. Fagley.  
Trustees: James R. Wotherspoon, Harry E. Borzell and George Wagoner.  
Executive Committee: Harry E. Borzell, Chairman, Frederick Sabin and George W. Wagoner.  
Relief Committee: O. M. Fagley, Chairman, George Fox, and Andrew Rivel.  
Delinquent Committee: James Black, Chairman, Cuyler D. Rees, and Albert J. Kochel.  
Auditing Committee: Joseph S. Wise, Chairman, H. V. Jennings, and James Evans.  
Entertainment Committee: James R. Wotherspoon, Chairman, Wm. F. Habicht, and H. J. Fueller.  
Ways and Means Committee: Harry E. Borzell, Chairman, Frank S. Hawken, and Cuyler D. Rees.

President George H. Rotz acted as toastmaster. He introduced Charles W. Grakelow as the first speaker of the evening. Mr. Grakelow proved a man of pleasing eloquence and won the applause of the assembly by the warmth and sincerity of his optimism.

The Reverend Thomas W. Davis was next introduced and likened the life of a business man to a

baseball game—requiring accuracy of judgment, clean sportsmanship, and physical and moral fitness.

In a few well-chosen and eloquent remarks, the toastmaster referred to the presence of Daniel Stern of AMERICAN ARTISAN AND HARDWARE RECORD at the banquet, and explained that illness had prevented his attendance at the two previous annual receptions and banquets. President Rotz generously refrained from asking him to make a speech but called upon him to stand up so that all might greet him in unison. He was hailed with prolonged hand clapping and many words of welcome.

Following an address by Frank Chew of New York City, the officers elected to serve the Stove Salesmen's Association of Pennsylvania for the coming year were inducted into office with appropriate formalities. They are as follows:

#### Officers for the Year 1920.

President: FRANK S. HAWKEN,  
First Vice-president: J. W. ABBOTT,  
Second Vice-president: WILLIAM H. YOUNG,  
Third Vice-president: HARVEY J. FUELLER,  
Recording and Financial Secretary: JAMES MCGAW,  
Treasurer: O. M. FAGLEY.

Touching the matter of social unrest and its proper management, the members present at the banquet adopted the subjoined set of resolutions and urged their adoption by the entire membership:

"Assembled at this time in the celebration of the Twenty-second Anniversary Dinner and Reception, we, the Stove Salesmen's Association of Pennsylvania, would present the following resolution for your consideration and request that same be adopted.

"WHEREAS, There are those in this country who threaten to force their will upon a majority. Russia today being a most striking example with its blood and terror and a painful object-lesson of the power of minorities. Being confronted with a situation sufficiently disturbing in our own country, brought about through teachings which are absolutely false, and if permitted to continue will undermine the great fundamental principles upon which this nation was founded; therefore, be it

"RESOLVED, That notwithstanding our optimism and the confidence we have that our nation will finally overcome any propaganda, under whatever name it assumes, and having for its object the elimination of those things which we consider most sacred. That we as an organization desire to go on record as being opposed to any movement which would mean the destruction of the peace, harmony and prosperity of this great nation; therefore, be it further

"RESOLVED, That we will use all our moral, mental and physical forces to uphold our nation which has stood under all circumstances for the equal rights of all men, regardless of the creed, nationality or color. In fact, we want to be known as being one hundred per cent Americans."

The following members attended the reception and banquet of the Stove Salesmen's Association of Pennsylvania:

Abbott, John W.  
Bechtel, Charles F.  
Black, James.  
Borden, I. B.  
Borzell, Harry E.  
Bowers, David.  
Cooney, Harold C.

Gammell, Joseph L.  
Ganster, Walter H.  
Garrett, Robert T.  
Habicht, William F.  
Hawken, Frank S.  
Kochel, A. J.  
Leiser, Lee S.

Carter, Charles D.  
Dobson, W. L.  
Dunlap, Hugh B.  
Edgar, A. C.  
Eckfeldt, William.  
Eckfeldt, W. P.  
Evans, Joseph.  
Fagley, O. M.  
Fluck, Frederick.  
Force, Harry E.  
Fox, George.  
Fow, Nathan.  
Fow, Harry.  
Fow, Mitchell.  
Fueller, Harvey J.

McConville, John.  
McConlogue, James.  
McGaw, James.  
Rivel, Andrew L.  
Rotz, George H.  
Sabin, Frederick.  
Sharp, Joseph K.  
Sherwood, Homer E.  
Smith, Robert.  
Stansbury, H. O.  
Taylor, H. B., Jr.  
Wagoner, George W.  
Wise, Joseph S.  
Young, William H.

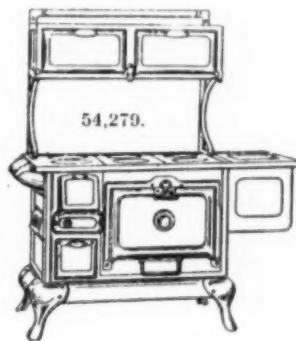
#### Guests.

The Reverend Thomas W. Davis.  
Daniel Stern, AMERICAN ARTISAN.  
Frank K. Chew, Metal Worker.  
John R. Gleichman.  
S. G. Renn.  
Clifford H. Rambo.  
Frank Stoffell.  
William Fenton.  
H. L. Dittert.  
H. L. Hatten.  
Nathan Klein.

#### ASSIGNS PATENT FOR RANGE DESIGN.

Usefulness is the first motive in the working out of designs. Before pleasing effect can be adopted, all the problems connected with the service expected to be rendered by a commodity must receive practical solution.

These desirable requisites appear to have received satisfactory fulfillment in the ornamental design for a range shown in the accompanying illustration. Under number 54,279, United States patent rights for a period of fourteen years have been granted to Charles W. Nye, Minneapolis, Minne-



sota, assignor to the Minnesota Stove Company, for the ornamental design for the range shown herewith. The design is neat without being crowded with multiplicity of detail.

#### BE CAREFUL OF STORE'S GOOD WILL.

The careless sale of anything but first class merchandise without giving the customer due warning of what he is buying, is one good way to destroy store good will, and advertisers of Portland, Oregon, were warned, recently, in a bulletin of the Better Business Bureau, against such practices.

There is no line of business, says a bulletin from the National Vigilance Committee of the Associated Advertising Clubs, with which the Portland Bureau is affiliated, which does not suffer more or less from unfair competition growing out of the dishonest advertising of such merchandise. The Portland bulletin puts the case forcefully, as follows:

"Seconds" has kin, and the names of some are "used," "second hand" "rebuilt." A short time back it was good form to advertise merchandise not of first quality and not state that it was "seconds" or call it by whatever name most appropriate. At least it seemed to be good form, for most advertisers did so.

But nowadays to follow in the footsteps of our pre-

decessors is not good form. In fact, it is dangerous, because:

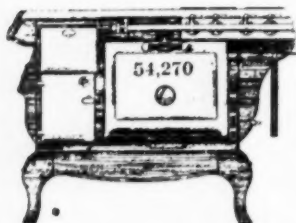
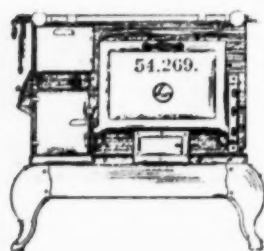
1—It is misleading advertising and consequently an offense against state law.

2—In some cities to do so violates a city ordinance.

3—The Federal Trade Commission—that new Federal body with a punch—holds such a practice unfair competition and a violation of the federal law.

#### PATENTS DESIGNS FOR STOVES.

Two separate patents each for a term of seven years, have been granted by the United States Patent Office, Washington, D. C., under numbers 54,269 and 54,270, to Max R. Lehman, Quincy, Illinois, for ornamental designs for stoves, depicted in the accompanying illustrations. Assignment of these patents has been made by Max R. Lehman to Steiger and Kerr Stove and Foundry Company, San Francisco, California, a corporation of California. A study of both designs, shown herewith, discloses the practical turn of the designer's



mind. It warrants the inference that he has had much actual shop and foundry experience. There are no intricacies of line and surface which would necessitate the construction of difficult or unusual patterns or which would increase the cost of molding. These are considerations which must take precedence over less necessary though more artistic motives in the working out of an ornamental design for stoves. Being a thoroughly democratic institution of our government, the United States Patent Office is free of access to every inventor who observes the easy requirements of application for patent rights. The issuance of a patent, therefore, is not proof positive of the practicability of a design or invention. That must be tested out under actual working conditions and with due allowance for established types and forms. However, the ornamental designs for a stove here under discussion appear to have the necessary qualifications for adoption in practical manufacture.

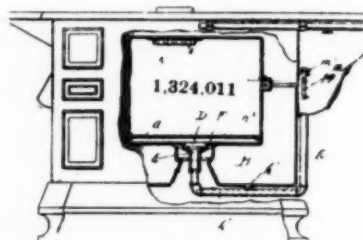
#### DISPLAYS FORCEFUL BUSINESS MOTTO.

No business house can keep the good will of its customers merely because of its name. It must have some tangible means of gratifying its customer's desire for the commodities it manufactures. The products manufactured by a company must have in them qualities which distinguish them from the great mass of similar goods. They must have quality. But quality alone does not suffice. The manner in which a company handles its customer's orders and inquiries must be in accord with the quality of its products as compared with other goods. They must give service.

The Borden Stove Company, 1311-1313 Arch Street, Philadelphia, Pennsylvania, is of the opinion that quality of the goods it sells makes friends and the service with which the sale of the products is accompanied keeps them friends. Wherefore, the company has on display in a prominent position in its warehouse the following motto: "Quality that makes friends; Service that keeps them."

#### PROCURES PATENT FOR RANGE.

United States patent rights have been secured by James H. Dean, Chicago, Illinois, assignor to Cole Manufacturing Company, Chicago, Illinois, a Corporation, under number 1,324,011, for a range described in the following:



A range of the character described comprising an oven, a burner chamber opening into the bottom of said oven, a stationary burner in the upper portion of said chamber, a horizontally arranged annular valve at the top of said chamber adapted to extend across and close the space around the upper portion of the burner, and means for shifting said valve.

#### PRODUCES RELIABLE PATTERNS.

The Quincy Pattern Company, Quincy, Illinois, has long been known for the reliance which can be placed upon the accuracy of its products. Patterns of unusual precision are made by this Company. The iron and wood stove patterns manufactured by the Quincy Pattern Company have made many steady customers for them. Material and workmanship require a more scrupulous selection in the manufacture of stove patterns than in any other single phase of stove production. The materials and workmanship entering into the patterns made by this Company are of the best that can be procured. Details concerning its patterns will be gladly furnished if a communication is addressed to the Quincy Pattern Company, Quincy, Illinois.

#### CONTAINS ENOUGH IRON FOR A SPIKE.

A man weighing 150 pounds approximately contains 3,500 cubic feet of gas, oxygen, hydrogen, and nitrogen in his constitution, which at 80 cents per thousand cubic feet would be worth \$2.80 for illuminating purposes. He also contains all the necessary fats to make a 15-pound candle and thus, with his 3,500 cubic feet of gases, he possesses great illuminating possibilities. His system contains 22 pounds and 10 ounces of carbon, or enough to make 780 dozen or 9,360 lead pencils. There are about 50 grains of iron in his blood and the rest of the body would supply enough to make one spike large enough to hold his weight. A healthy man contains 54 ounces of phosphorus. This deadly poison would make 800,000 matches, or

enough poison to kill 500 persons. This, with 2 pounds of lime, makes the stiff bones and brains. No difference how sour a man looks, he contains about 60 lumps of sugar of the ordinary cubical dimensions, and to make the seasoning complete must be added 20 spoonfuls of salt. If a man were distilled into water he would make about 38 quarts, or more than half his weight. He also contains a great deal of starch, chloride of potash, magnesium, sulphur, and hydrochloric acid in his system. Some boy!

### COMPARE YOURSELF WITH OTHERS.

If you want to determine the quality of your own success, compare yourself with the men who are doing the same kind of work you have set yourself to accomplish. What you are doing now may be only one stage of your progress. But if you are doing better work at this stage than others are, you are succeeding. If you are doing the work you are happy in and fitted for, the kind of work you want to stay in, and are doing it better than anybody else, you are a success.

### MESSAGES OF GREETING COME FROM MANY FIRMS AND INDIVIDUALS TO AMERICAN ARTISAN.

There is a fellowship of ideals and service which goes deep into the fiber of business and is the humanizing spirit of American industry. Always it is at work—otherwise there would be no peaceful production and commerce. It is well, however, that we remind ourselves of it from time to time lest we miss some of its finer influences in our lives. The Christmas season, by common custom, is one of such times. AMERICAN ARTISAN AND HARDWARE RECORD is glad to take part in the general good cheer and delighted to be the recipient of holiday greetings from manufacturers, jobbers, executives of organizations, retailers, traveling salesmen, clerks, and mechanics from every part of the country. Friendly Christmas salutations have come from:

LOUIS KUEHN, President and Treasurer Milwaukee Corrugating Company, Milwaukee, Wisconsin;

A. J. LUEDKE, Secretary and Assistant Treasurer Milwaukee Corrugating Company, Milwaukee, Wisconsin;

F. M. RUDELL, secretary-treasurer and general manager Globe Stove and Range Company, Kokomo, Indiana;

SAMUEL D. LATTY, President The Kirk-Latty Manufacturing Company, Cleveland, Ohio;

R. J. SCHWAB, President R. J. Schwab and Sons' Company, Milwaukee, Wisconsin;

F. G. DREW, Winchester Repeating Arms Company, New Haven, Connecticut;

JOHN T. McROY, Santa Barbara, California;

OLD GUARD, Southern Hardware Salesmen's Association;

J. E. STONE, Stanley Rule and Level Company, New Britain, Connecticut;

R. M. WIHMAN, manager The Peerless Stove and Manufacturing Company, Columbus, Ohio;

CHARLES S. HUBBARD, Duquesne Club, Pittsburgh, Pennsylvania;

ALBERT SISSON, member Old Guard Southern Hardware Salesmen's Association, Chattanooga, Tennessee;

SHEET METAL CONTRACTORS' ASSOCIATION of Chicago, Illinois;

HENRY A. SQUIBBS, American Steel and Wire Company, Chicago, Illinois;

W. E. GRAHAM, The Philadelphia Lawn Mower Company, Philadelphia, Pennsylvania;

JAS. P. MARSH AND COMPANY, Chicago, Illinois.

J. T. SKELLY, Hercules Powder Company, Wilmington, Delaware;

T. M. GALLAVIN, E. C. Stearns and Company, Syracuse, New York;

PAUL L. BIRSACH, Consolidated Sheet Metal Works, Milwaukee, Wisconsin.

EMIL RENISCH, Renisch and Wallace, Chicago, Illinois;

ALLEN W. WILLIAMS, Secretary Warm Air Heating and Ventilating Association, Columbus, Ohio;

GEORGE H. HARPER, National Enameling and Stamping Company, Baltimore, Maryland;

G. P. BLACKISTON, Canton, Ohio;

JOSIAH BORDEN, The Borden Stove Company, Philadelphia, Pennsylvania.

### ASKS WHO MAKES NUMBER 11 CHIEF OAK COAL HEATER.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

Can you tell us who makes the Number 11 Chief Oak Coal Heater?

CHESTERFIELD HARDWARE COMPANY.

Chesterfield, South Carolina, December 22, 1919.

### SCIENTIFIC RETAILER KNOWS WHY.

Is there any difference between being practical and being scientific? That depends upon your definition of what is scientific and what is practical. To be practical is to get the results you are after. Just in so far as we fall short of the results we want, provided we want reasonable results, we are impractical. Being scientific is also getting the results we want. But it is more than being practical in the ordinary sense of the term. It is also knowing why we get certain results. The scientific retailer not only knows what results he gets but he also knows just why he gets them—and he is in better position to get the same results again and again, and to get better and better results.

The Rock Island Stove Company, Rock Island, Illinois, is having plans made for a plant 50x144 feet.

The American Stove Company, Cleveland, Ohio, has taken out a permit to erect an addition, three-stories, 56x115 feet, to cost \$15,000.

The Ohio State Stove and Manufacturing Company, Columbus, Ohio, have let a contract for a three-story building, 45x45 feet.

To rejoice in the prosperity of another is to partake of it.—William Austin.

# THE WEEK'S HARDWARE RECORD

*Of Interest to Manufacturer, Jobber and Retailer*

**AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing western hardware and metal prices corrected weekly. You will find these on pages 52 to 57 inclusive.**

The Ohio Cutlery Company has been organized at Massillon, Ohio, with a capital stock of \$75,000.

The Richards-Wilcox Manufacturing Company, Aurora, Illinois, will build a two-story plant costing \$125,000.

The Mansfield Electric Hardware Company, Mansfield, Ohio, plans to build an addition to its plant to cost \$25,000.

The Groves-Thornton Hardware Company, Wheeling, Virginia, has erected a four-story brick building costing \$25,000.

The F. L. Horton Corporation, Boston, Massachusetts, has been incorporated to manufacture machinery, hardware, etc., with \$700,000 capital, by Charles E. Fay, Harold V. Tillson, Brockton, Massachusetts, and Fred C. Fernald.

## RETAILERS ORGANIZE TO COMBAT MAIL ORDER COMPETITION.

"What is an effective means of combating mail order competition?" is the predominating question in the mind of the merchant hard pressed by the mail order concerns. Many dealers have methods of their own by which they seek to prove to their community the desirability of purchasing from their local retailer. Some are successful. But it is needless to say that there are dealers who find that even in spite of vigorous attempts to acquaint their vicinity with the disadvantages attendant upon purchasing from mail order houses, the trade is not as responsive as should be the case. Who will doubt that individual dealers have a big task before them when they try—and many successfully—to combat the organized efficiency of mail order houses? But new occasions teach new duties.

The merchants of Fort Dodge, Iowa, have come upon a method of meeting and overcoming mail order competition that bids fair to outpace any yet devised. They fight the catalogue houses with their own weapon. The retailers of Fort Dodge have organized. By co-operative planning they have issued a catalogue, the *Fort Dodge Shopper*, Mail Order Edition. Combined in the organization of the Retailer's Bureau of Fort Dodge, Iowa, the retailers of that city have taken long strides in successfully combating mail order competition. Their booklet is a sample of clear thinking. It is put together in the form of the average mail order

catalogue. The introduction on the front page explains to the prospective purchasers the aim and object of the *Fort Dodge Shopper*. Then follow descriptions and illustrations of the various products handled by the retailers who are members of the Retail Bureau of Fort Dodge. The descriptive matter is arranged much in the order of mail order circulars. Order blanks are provided with each booklet. Complete instructions are given the prospective buyers as to how to order the products he desires.

Now, how does this plan actually work? Many answers were received in reply to inquiries sent out by AMERICAN ARTISAN AND HARDWARE RECORD pertaining to the operation of this method of mail order competition.

A particularly interesting letter was received from A. E. Murray, District Manager for Fort Dodge, Iowa, of the Globe Stove and Range Company of Kokomo, Indiana. It will be seen from Mr. Murray's letter that he has investigated this method of mail order competition in the manner of a skilled and impartial investigator. His letter is herewith subjoined: TO AMERICAN ARTISAN AND HARDWARE RECORD:

"Your letter duly received. Upon investigating the matter of a cooperative catalogue, I find that practically every merchant using it is unanimous in his praise of same. I talked with Mr. Neilson, Secretary of the Retailer's Bureau, and he advises me that the future issues of the *Fort Dodge Shopper* will be more productive of results in that it will be better constructed to meet mail order competition. The trouble in the past has been that the merchants were too much inclined to use display advertising. The results obtained are of course sometimes hard to analyze correctly. The Prusia Hardware Company had direct results; also, the Gates Dry Goods Company reports direct sales from same.

"Mr. A. Hurbut, jeweler; Welch Brothers, shoes; C. A. Brown, clothier, and many others interviewed pronounced it a success.

"Personally I believe in it thoroughly, as the co-operative plan more successfully combats catalogue house advertising and of course carries more latent strength and general elements of success.

"The retailers bureau is separate, yet is in a way connected with our Commercial Club, and we are now organizing a farm bureau in this community and the goal is 2,000 members. The first luncheon for the farmers was given at the Commercial Club rooms December 14th. The membership drive has been started.

"I am enclosing an advertisement calling the farmer's attention to their organization and while a number of these farmer's organizations have been failures in the past, this new one seems to have the elements of success in it.

"Anything of service I can do for you and your

valued magazine, I shall delight in doing, so please advise me.

"With kind personal regards, I remain,  
Sincerely yours, A. E. MURRAY,  
District Manager, The Globe Stove and Range Company.  
Fort Dodge, Iowa."

The advertisement referred to in the letter which calls the attention of the farmers to an organization created for their benefit, is a one-page insert in *The Messenger and Chronicle*, Fort Dodge, Iowa. The purpose of the organization is to acquaint the farmers in that locality with matters pertaining to the purchase of commodities. It is the aim to inform them of the true benefits of purchasing from the local dealers. The uncertainties of mail order purchasing and the resultant inconveniences will be pointed out to the farmers in this organization.

We append herewith a letter received from the Sanders Furnace Company, Fort Dodge, Iowa, one of the advertisers in the *Fort Dodge Shopper*. The letter is written by R. V. Kent of the Sanders Furnace Company and is illustrative of the views of many of the retailers of that community:

TO AMERICAN ARTISAN AND HARDWARE RECORD:

"Replying to your inquiry would say that we have regular advertisements in the *Fort Dodge Shopper* and have had numberless direct inquiries as a result. The idea, we believe, is a good one as it familiarizes the farmers with the business men of Fort Dodge, and the majority of the advertisers are very much in favor of the publication. We consider it a very effective means of combating mail order competition.

"We are handing your inquiry to the Secretary of the Retailer's Bureau, who will, no doubt, take this matter up with you direct.

"Yours very truly,

"R. V. KENT, Sanders Furnace Company,  
"Fort Dodge, Iowa."

The deduction to be obtained by a careful perusal of the methods of the retailers of Fort Dodge, Iowa, to combat mail order competition is that the results prove their success. There is no doubt that with experience and time the Fort Dodge Retailer's Bureau will increase in effectiveness. By the method described a better understanding will be brought about between the farmers and other prospective purchasers of this community and the retail merchants.

#### CATALOGUE AIDS IN STOCK SELECTION.

The catalogue of the Philadelphia Lawn Mower Company, Philadelphia, Pennsylvania, is compiled with a view to aiding dealers to select a proper supply of lawn mowers of every description for their stock. The products manufactured by this company are well illustrated in the booklet issued by it. A description sufficient to aid the retailer to determine whether the article is suited for his purposes appears with every illustration. The Philadelphia Lawn Mower Company declares that its products are manufactured of high grade materials. All parts are carefully fitted. The catalogue of the Philadelphia Lawn Mower Company should be in the hands of all retail hard-

ware dealers. Those requiring a copy of the catalogue should write to the Philadelphia Lawn Mower Company, Philadelphia, Pennsylvania.

#### PATENTS ORNAMENTAL DESIGN FOR COMBINED FORK AND KNIFE.

The European war has unfortunately increased the number of cripples in all the great countries of the world. Many a returned soldier goes back into civil life and takes up the task of earning a livelihood



with a hand or arm missing. Numerous devices have been invented to help him overcome such a handicap. This no doubt is the motive in the ornamental design for a combined fork and knife shown in the accompanying illustration for which United States patent rights for a term of seven years have been obtained under number 54,298 by Marietta Griffith Zizelman, New York City.

#### MAKES A CHANGE IN PRESIDENCY.

A change has taken place in the presidency of the Greenfield Tap and Die Corporation of Greenfield, Massachusetts. Frank O. Wells, former president, has sold his interest in this corporation to Frederick H. Payne, vice-president of the corporation. Mr. Payne succeeds to the position of president of the Greenfield Tap and Die Corporation. F. G. Echols, vice-president and general manager of this corporation, has been elected a director to fill the vacancy caused by the withdrawal of Mr. Wells. However, it is announced that Mr. Wells will remain with the Greenfield Tap and Die Corporation in an advisory capacity.

#### APPOINTS COMMITTEES FOR TEXAS RETAIL HARDWARE CONVENTION.

Extensive plans for the comfort and entertainment of the delegates to the 1920 Convention of the Texas Hardware and Implement Association have been formulated by the Dallas Implement, Hardware, Saddlery and Tractor Club of Dallas, Texas, in which city the convention is to be held January 20, 21 and 22, 1920. According to officials of the local Association the convention will bring about 1,500 visitors to Dallas. The following committees have been appointed to look after the local phase of the state gathering:

General Entertainment: W. T. Davis, chairman; C. B. Marsh, C. A. McCline, H. B. Sammons, W. L. Bogardus, J. J. Foley and J. W. Kizer.

Finance: J. M. Moroney, chairman; G. A. McGregor, J. Lee Jackson, H. C. Post, L. G. Kibbie and J. H. Osborne.

Ladies: George W. Pierce, chairman; N. A. McLemore, A. P. Johnson, J. Durrell Padgett and E. W. Bogan.

Hotel and Headquarters: Eugene Rosenbaum, chairman; Hugo Schoellkopf, John E. Morriss, J. L. Osborne and W. C. Schnelle.

Publicity: H. B. Sammons, chairman; J. Lee Jackson and A. P. Johnston.

Badges: M. L. Sammons.

Officials of the local club are W. T. Davis, president; C. B. Marsh, vice-president, and H. B. Sammons, secretary-treasurer. The executive board is composed of Eugene Rosenbaum, chairman; W. I. Bogardus and J. W. Kizer, with the president and the secretary ex-officio members.

### INDUSTRIAL CONDITIONS DEMAND A RECONSTRUCTION IN BUSINESS AND CREDIT MANAGEMENT.

American business has never seen a parallel for the present situation, and it is necessary for all of us to inform ourselves thoroughly as to the tides and currents of industrial and commercial life, in order that we may govern ourselves wisely, says a contemporary journal.

Sometimes our very nearness to the task blinds us. Nevertheless we must grasp general principles firmly, concentrate on our own problems, and learn to apply these principles to our own business. It is one thing to read about it or talk about it, and another thing to do it.

Business, large and small, will discontinue long-time credits. This is one of the fruits of the war, and we will not easily let go of anything so thoroughly desirable. This means that the man who sells you will buy to better advantage, and will be able to make better prices in consequence, and you in turn will require your customers to pay more promptly. This will enable you to use your money to better advantage, will prevent the tie-up of unnecessary capital in stock and book accounts, and will enable you to meet your competitor who is operating along right lines.

The only thing is to turn over a new leaf now. Whether your business is big or small, there is only one thing to do, and that is to discount each and every bill.

There are many who have discounted some bills, while others have never realized the surpassing importance of discounts.

Many will say, "I can't do it. I haven't the money. I have been trying for years to get to the point where I could do this very thing. Perhaps if business is good, I will 'arrive' within a year or two."

Do it now. If necessary go and borrow the money, but discount your bills. You can borrow the money at six per cent per annum. The percentage varies somewhat upon the terms offered by the different houses with which you do business, and the frequency of your settlements.

If a house offers one per cent on thirty-day settlements, you can save twelve per cent on your business with them in the round of the year. In reality, it would be more than this, as you have the use of the percentage saved for varying periods.

It is a conservative plan to reckon that the discounts saved by prompt payments will not be less than from ten to twelve per cent, and it has been estimated as high as eighteen per cent. If a man pays six per cent for the use of his money and saves even ten per cent by his ability to settle promptly he makes four per cent additional profit on the business done. What

is the aggregate of your own sales per annum, and what would such a discount saving mean? It doesn't take a very large business to make the discounts amount to enough to pay the salary of one man.

The business principal who follows this rule closely is going to be a very careful buyer. He will not overstock. He will continually ask himself, "Can I take care of that bill when it comes due? Had I best place this order with this man or make a little further investigation as to market prices and qualities? I've got to pay in a short time, and I must buy to the best possible advantage."

A prompt discount plan keeps a business from getting top heavy. Then, too, the man who realizes that he must have cash in hand without fail on a certain day will hustle to get business and to keep step with the most progressive publicity and business-getting ideas.

Close buying and prompt payment are good, but to stop there is not enough. The goods must be sold right. Customers who have to be drummed and drummed for the settlement of their accounts are not desirable. The tie-up of cash eats up the profits and the discount plan will result in a closer scrutiny of credits given, and a closer following up of the work of the collection department.

### ASKS DATA ABOUT MANUFACTURE OF "MONARCH IRISH MAIL."

TO AMERICAN ARTISAN AND HARDWARE RECORD:

Can you advise us who manufactures the "Monarch Irish Mail?"

MCQUESTEN HARDWARE COMPANY.

Muscataine, Iowa, December 20, 1919.

### REMOVES WRONG IDEAS OF HALLMARK.

A tradesman who was sufficiently interested in the loose use or hazy comprehension of "hallmark" to make a first hand investigation by quizzing folks on the other side of the counter discovered that nine citizens out of ten are prone to regard what is pointed out to them as a hallmark not merely as a trade-mark but as a sort of super-insignia, a badge of honor whereby the Government in some way or other vouches for the integrity of the article on which the mark appears, according to Waldon Fawcett in the *American Cutler*.

There is ample excuse for the prevalence of that impression in Great Britain, but that the idea has taken such firm root in the United States only goes to show to what extent we may consciously or unconsciously obtain impressions from Old World usage. The English love to talk about "the hallmark of quality," and even the London funny paper, *Punch*, has taken that decoration unto itself, but all the respectability that attaches to "hallmark" in British eyes is but the reflected glory from what was the original and is yet the main use of the hallmark.

Literally, then, the hallmark is, in England, an official stamp that is by due process of law, placed upon articles made of gold and silver as an evidence of genuineness. The "Hall" or "hallmark," the mean-

ing of which is apt to be a mystery to the uninitiated, comes from Goldsmith's Hall in London, which is the headquarters of the Goldsmith Company, by whom the stamping of this official mark is legally regulated.

The official British hallmark, if we may so designate it, is of complicated design. In reality it consists not of a single mark but of half a dozen different marks displayed in conjunction. First, there is a mark indicating the "standard." For example, silver of the new standard is indicated by a figure of Britannia and a lion's head erased. Adjoining this signal of standard or quality is the mark of the assay town,—a different design for each town. As examples, there might be cited the crown that signifies Sheffield, and the anchor that bespeaks Birmingham. The third mark in line is one denoting that the duty has been paid, and then comes the date-mark, which is represented not by figures but by letters of the alphabet which, to knowing ones, disclose the year of manufacture. Fifth place in the series is held by the maker's mark, consisting, usually of two or more initial letters, finally, there may be presented a workman's mark, although this finishing touch is not always added.

There is, of course, nothing in the United States that approximates this British system of applying an official hallmark. Consequently it follows that the hallmark in its traditional form can have no significance in trade in the United States unless it attaches to articles imported from England on which it appears. Here, in fact, the word "hallmark" is possessed only of its secondary meaning. That is to say, the nickname hallmark is applied to any mark of genuineness, good quality or respectability.

That our English cousins do not relish use in the United States of what they have come to look upon as their own pet hallmarks was indicated a few years ago when the British Government protested vigorously against the registration in the United States Patent Office by the Gorham Manufacturing Company of a mark consisting of a lion inclosed in a hexagonal figure; an anchor within the outline of a shield; and the letter "G" in Old English type. The British protested that the mark was practically identical with the hallmark of the Birmingham assay office, and on this showing the United States Commissioner of Patents refused to give the mark standing in this country as the exclusive property of any private firm. The case was carried on appeal to the highest Federal court that passes upon such questions, but the only result was an endorsement of the refusal to allow appropriation of the British insignia.

That the word "hallmark" has to some extent been sailing under false colors in American mercantile circles does not mean, however, that it is not a permissible and a very convenient "talking point" if only its supposed significance be fully understood by both parties to the conversation in which it is used. A merchant is not stretching a point if he employs "hallmark" as short for a promise of honesty of manufacture and a pledge of satisfactory service. Only, he should perhaps be prepared, if he observes that his customer thinks that any hallmark carries official prestige, to explain, for the sake of future good feeling, that the pledge that an Americanized hallmark gives is merely

the hostage of the manufacturer and not of the Government.

When it is stated that the average business man who has "hallmark" in his every-day vocabulary uses it interchangeably with or as the equivalent of "trade-mark," there may profitably be added a word of caution against the too free and easy use of the term "trade-mark" in conversation with the unsophisticated. Just as "hallmark" has a halo because it is accounted official British insignia, many folks fondly believe that Uncle Sam has taken the role of endorser for the trade-mark that is inscribed "Registered, United States Patent Office." It is indeed, a somewhat parallel situation though not quite so acute as that which resulted from the misinterpretation of the word "Guaranteed" as formerly used on labels prescribed under the Food and Drug Act. Tradesmen naturally delight to proclaim their respective trade-marks "a badge of quality" or "a guarantee of satisfaction" or "a protection to the customer," but it were well if the purchasing public were given clearly to understand that any such meaning has to be put into a mark by the user or as a result of his long and honorable record. Essentially, an American hallmark or trade-mark is nothing more nor less than an indication of origin,—a sign that reveals the identity of the producer in order that the ultimate consumer may be enabled to place a repeat order if satisfied, and to eschew the identified goods if dissatisfied.

#### EXERCISE CARE IN OPENING NEW CREDIT ACCOUNTS.

Do not be too optimistic or too ready to start new credit accounts. Know with whom you are dealing first. You need not be rude or unduly overbearing about it. Go about it in a courteous manner. Find out as much as you can without arousing the resentment of your prospective creditor concerning his financial and business status. It will maintain the soundness of your business foundation.

#### TO DETERMINE THE POSSIBILITIES OF YOUR BUSINESS YOU SHOULD SCIENTIFICALLY ANALYZE IT

Science is classified knowledge. To do a thing scientifically is to do it with a knowledge of its previous history and record of activity. It is the positive manner of doing anything. We hear a great deal about scientific management. It is nothing more nor less than the use of scientific methods in getting things done in the one best way—the way that pays the manufacturer or the retailer the highest net profits. For scientific management works in a retail store as well as in a modern factory. A great many live retailers are more scientific than they realize.

Judging by the sales of business literature retail dealers throughout the country are endeavoring to determine the best method of keeping books and stock records; of buying and selling; of handling clerks and paying wages; of advertising and displaying goods, and so on. They are putting analytical thought into their management. They are constantly trying out

different methods of getting definite results. And the results they got are constantly improving.

The very first point to be considered if scientific management is aimed at is what results are wanted. That is not an easy thing to do. Take the planning of a circular, for instance, with a definite and well analyzed idea of the results you want it to get.

It should not be thought that by this is meant a specific amount of sales can be gained as a result of the circular. That is not the idea. But it means that you want the circular to make several definite impressions on the readers—specific impressions which will be sure to get the results you want.

As an example, say you desire to get business from several prospects who are building houses or barns, or structures of any kind. Is it enough to tell them that you have the goods they want, at very reasonable prices? Would it not be better to portray some of the high qualities of your products? If so, what should they be? What else will help you to get the business? What makes a man buy his supplies from one store and not from another? Why do some people pass up your store and even your town and go elsewhere to get what they want? Is it because you don't have the goods or because your prices are comparatively high? If so, why are your prices higher, or why don't you have the goods they want? Is it your fault? Or, is the merchant elsewhere losing money?

Questions in the nature of those considered herein are, indeed, simple. But is it so easy to get the correct answers? It may or it may not be, depending on the way you go at it.

It requires exacting, critical analysis to answer questions of this type. You must carefully analyze your business. And to analyze a situation and get at the roots of the solution to any problem is a matter of scientific thinking. The scientific man analyzes his problem. That is, he separates it into its logical parts.

In what way can I extract more from the trade builders in my vicinity—what shall I do to gain their business? It is profitable. Suppose that is the problem. What is the practical, scientific answer to it?

Your first consideration should be what kind of products do they want. What tools are best suited to their needs? Exactly what kind do they want? Do some want one thing and others another thing? Just who are they in each case? Why do they differ in their wants? Is the difference vital, or not really important? Shall I carry different goods to meet these different wants? Will that pay me better than trying to sell what I now carry to those who do not want just what I carry? Is the difference in the service they will get from the kind of goods I carry enough better to make it unwise for me to try to switch them to my goods?

The question could be continued until every single detail touching upon the matter had been entered into. When scientific management is the object all questions, though seemingly trivial, must be carefully dissected. However, you should not stop at the analysis. Thought without action is a waste of energy. Proceed to carry out the results of your deliberation.

## MANUFACTURES FILES OF QUALITY.

The Delta File, illustrated herewith, manufactured by the Delta File Works, Philadelphia, Pennsylvania, is a product of unusual quality. The keen cutting power



Delta File, Made by the Delta File Works, Philadelphia, Pennsylvania.

of these files is due to the tested grade of steel entering into their manufacture, declare the makers. Because of the vast growth of the production of steel many grades of the metal are placed upon the market. Today greater scrutiny is required to select suitable materials for a certain product than was the case years ago. "The rule of thumb" has been discarded in the testing of steel. Medicine is not the only activity in which is made a generous use of the microscope. The molecular formation of the various grades of steel is viewed under the microscope before the metal is used for any purpose. By this means there is no doubt as to the amount of phosphorus, silicon, sulphur and manganese contained in the metal. All these elements are vitally necessary in determining the durability, cutting edge, brittleness, etc., of the finished product. A piece of steel containing 0.90 per cent carbon would be adaptable for one make of file, but useless for another. Steel with coarse, crystalline molecules with low carbon would not be safe for commercial uses. Files require a careful selection of steel. Not only is this true in determining the material to be utilized in the producing of files as a whole, but studious selection must be made of steel for individual files. A wide variety of files is made by the Delta File Works. The material best adapted to each is used, over the makers. Each file of their manufacture is durably made and will last for an uncommonly long time. The metal used is warranted to be refined cast. Likewise, the workmanship is of the best, declare the producers. Descriptive literature, prices and other details concerning the Delta Files can be obtained by communicating with the Delta File Works, Philadelphia, Pennsylvania.

## CONTENTMENT WITH "FAIR" BUSINESS RETARDS DEALERS' GROWTH AND INITIATIVE.

The great danger of doing a "fairly good" business is that the dealer is apt to become contented and not vigorously seek enlargement of his trade. He is satisfied with the sales he makes and his business becomes more or less of a social affair—each customer becomes an intimate acquaintance and the dealer does not give thought to the increasing of the number of his patrons. Many merchants do not give sufficient attention to the problem of reaching the newcomer to the community. They take it for granted that he will come to them when he needs hardware. However, should there be one alert merchant among several in a community he makes it a point to get at once in

touch with this new resident and to welcome him to the community.

The average man prefers the friendly merchant and the friendly store. So, even from a crass monetary and commercial point of view, it is worth while to be friendly to the newcomer.

The results may not show immediately, but they are sure. An energetic canvass of regular customers and prospects will lay the foundations for a splendid trade. And making a practice of getting promptly in touch with the worthwhile newcomer to the community will add materially to your list of prospects and bring you a good share of new customers.

Among other things these two are vitally important if you seek expansion of your trade: Know your goods and cultivate friendliness. A friendly attitude, a knack of sympathetic interest in the individual, is worth a lot to any salesman. Knowledge of the goods is essential if you are to give people that sort of service which counts in gaining and holding customers.

One of the big mistakes made by dealers is treating an old customer with less attention than they do a prospect. This is an error that should be overcome. Get into the habit of treating all customers alike—courteously, promptly and cheerfully.

#### **WINDOW DISPLAYS OF CUTLERY ARE ADAPTABLE TO ALL SEASONS.**

It is superfluous to urge the featuring of cutlery in the hardware store at any season of the year. All hardware dealers feature cutlery, more or less. Some displays are excellent; others are not so good.

Many hardware stores in their cutlery displays rival the very best and brightest of the jewelry shops for artistic effect and striking arrangement of the goods, says William Edward Park. In others, the cutlery is in no sense displayed—merely, the customer is given a chance to see it in dusty, neglected condition. Such stores are doubtless exceptional, but they exist.

Now, there are in every hardware store plenty of lines that do not lend themselves readily to display. Cutlery is not one of these. The hardware store, in its efforts to brighten up and be attractive, has no more effective agency than a first class cutlery display.

Cutlery should be kept well to the front of the store. The proper method as every wide-awake merchant knows is to display the goods in glass show cases where they can be seen to best advantage and yet kept free from dust and dirt. The cases themselves must be kept clean. The stock is at its best when properly kept, clean, bright and attractive.

Displays should be made at least once a month, if possible, this comprehending not merely table cutlery but allied lines that may be handled, such as silverware, cut glass, brass goods, etc. It will pay to have the windows well lighted at night, at least during the hours that people are out.

In preparing a cutlery display, put some thought into it. Such a display can't be just thrown together. It helps considerably to make beforehand a rough sketch or outline on paper, and to work from that.

It is possible to make displays with very little expense, but as a rule it is better business policy to spend some money on each display in order to secure the best possible effect.

It is possible to make a good showing without putting into the display an overwhelming amount of stock. The attractive show cards and other advertising material supplied by manufacturers can here be used to good advantage.

There are many dealers who do not get the full advantage of this material which is supplied them for display purposes. Indeed, I have known some who say: "Why should I use my window to advertise Black's paints or So-and-So's shears? If I do any advertising, I want to advertise myself."

Now, every display the retailer puts on should primarily aim to advertise the retailer. He should put his own personality into it, as well as the goods he handles. This knack of imparting to a display the individuality of a merchant or of a store is an important feature. Don't fail, in putting together your display, to feature Smith's, to use the slogan, "See Smith's and Save Cents," or whatever else the slogan may be. Put into the display every personal, every local touch that belongs there. But when that is done, use the manufacturer whose goods you are showing to help you.

If you object to using Smith's window to show Blank's paints or So-and-So's shears, all well and good. But you can profitably reverse the process and use Blank's paints or So-and-So's shears and all the accompanying manufacturers' advertising material you can lay your fingers on, to impress on folks what, A-1, first class, thoroughly excellent lines Smith has to offer.

So, you can make first class use of any advertising material the manufacturer furnishes you when you put together your next cutlery display; and you can do that without robbing yourself or your store or your display of one iota of personality or individuality.

The first thing in making a display is to arrange the background. This is most important as it is the first thing to attract the attention of the passer-by. Considerable time and thought should be spent on this, as it is the main part of your display.

With a great many window trimmers the background is the main trouble, as all windows do not have a solid back. This can be overcome by the use of wall-board, which can be secured in sheets of various sizes and can be used either in one large sheet or cut into circles, stars, etc., and hung at the back of the window. The circles, etc., can be covered with colored crepe paper or sateen and are splendid for showing cutlery as well as other goods. The cutlery is easily fastened to them with fine wire which is not visible from the street.

A solid back to the window enables the trimmer to work to much better advantage. The wall-board can be cut into panels to cover the entire back. Cover these panels with colored sateen or other material, and you have a splendid "false back" for your window. Trim your panels in the store beforehand, fastening the cutlery on with fine wire, and when

ready to make your display you can simply place them in the window and your background is complete.

Another good way to make a background is to use one large sheet of wall board, cut so that when placed on the back there will be a space of about a foot or 18 inches left vacant around the edges. Cover this centerpiece with some bright colored goods, green or red if possible. Then work out some design on this with your cutlery, fastening on the goods with fine wire. Use some other color of goods to cover the rest of your background around this panel. In this space hang scissors or any other pieces of cutlery easily placed. Show cards can also be used here; or the space can be draped with various sizes of brass jack chains, and then in the resulting loops hang scissors or other articles.

With the background complete, start work on the floor or bottom of the window. A raised step should be made across the back, perhaps 12 or 18 inches high; with an extra deep window, use two steps. These can be covered with bright sateen and cutlery placed on them.

Have the larger goods, such as case cutlery or cut glass vases, at the back, and work toward the front with smaller articles. Pedestals and stands can be used to good advantage, particularly to show the larger articles. Incidentally, the placing of the various items is important, as one article misplaced will produce a jarring effect that may even spoil the display.

Back of the window display there should be organized effort to push cutlery. Discuss the subject in your sales conference, encourage your staff to learn more about the goods they handle and to push their sale. Keep the goods where they will be seen, display them well, push them at every opportunity, and you'll get good results.

#### **CAN ARRANGE ATTRACTIVE EXHIBITS BY THE AID OF THE WINDOW DISPLAY COMPETITION.**

Hardware dealers should take pride in their windows. In the first place they give a better appearance to the store—to say nothing of the productiveness in increased sales. In the second place they are, figuratively speaking, the headlines to his store. To the passerby they are the most interesting portion of the hardware dealer's business. A window display is the news page of the retailer's store. There is one criticism that can be made of retailers in general with regard to their window arrangements. That is, they run in a rut. Their work shows the trace of a single track mind—a mind that thinks in one way. Of course it is hard to plan and arrange attractive exhibits. But it is doing the difficult—yes, the improbable—that distinguishes the leader from the crowd. But even the leader must have an inspiration. He must have a deep grounded reason for his endeavors. The Window Display Competition which is conducted by AMERICAN ARTISAN AND HARDWARE RECORD is a goal for hardware merchants who would exploit their window show space to the greatest extent. This contest makes the work of more interest. It adds zest to the

difficult task. Great things have been done under the spur of an inspiration. And window displays of acknowledged distinctiveness have been executed under the stimulus of the contest conducted by this paper. Why not avail yourself of this opportunity? If you are a retailer in the hardware or allied trades you are eligible to enter this Window Display Competition. If you are a clerk in a hardware store or any similar business you can participate. Read the following rules upon which the contest is based:

##### **Award of Prizes.**

The prizes will be awarded as follows:

First prize \$50.00 in cash, for the best photograph and description received of window display of hardware or kindred lines;

Second prize, \$25.00 in cash, for the photograph and description second in merit;

Third prize, \$15.00 in cash, for the photograph and description third in order of excellence;

Fourth prize, \$10.00 in cash, for the photograph and description fourth in degree of worthiness.

##### **Conditions of Competition.**

The conditions of the competition are as follows:

The photograph must be accompanied by descriptions of how the window displays were arranged and the materials used. The description is important and hence should be adequate. These photographs and descriptions may be sent by mail or express, charges prepaid, and must reach this office not later than February 2, 1920. Address all photographs and descriptions to AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition, 620 South Michigan Avenue, Chicago, Illinois.

Each photograph and description must be signed by a fictitious name or device and the same name or device must be put in a sealed envelope containing the real name and address of the contestant. This sealed envelope is to be enclosed with the photograph. Contestants are permitted to enter as many photographs of displays as they please.

A Competition Committee of three will be appointed. One of them will be an expert window dresser and one an experienced hardware man. This Committee will pass upon the merits of all photographs and descriptions received, without knowing the names or addresses of the senders, and will decide the winners of the Competition.

AMERICAN ARTISAN AND HARDWARE RECORD reserves the right to publish all photographs and descriptions submitted.

#### **OPPORTUNITIES FOR FOREIGN TRADE PRESENTED BY BUREAU OF FOREIGN AND DOMESTIC COMMERCE.**

The Bureau of Foreign and Domestic Commerce through its Special Agents, Consular Officers and Commercial Attachés is receiving information of opportunities to sell hardware and kindred lines in several foreign countries. Names and locations will be supplied on request to the Bureau in Washington or its District Offices. Such requests should be made on separate sheets for each opportunity, stating the number as given herewith:

31549.—An importer in Italy desires to get into com-

munication with firms exporting locks for furniture, nails, and tacks. Illustrated catalogues are requested. Correspondence should be in Italian. References.

31552.—The purchase is desired by a man in Turkey of large quantities of wire nails, thickness assorted from 15 to 24 (Paris numbers). References.

31590.—A firm of importers in the Netherlands desires to purchase or secure an agency for the sale of automobile accessories. Reference.

31591.—An agent in Egypt desiring to represent American export agencies, wishes to secure an agency for the sale of steel and iron plates, tinplates, etc., nails, wire netting, bolts and nuts, rivets, screws. Quotations should be given c. i. f. Egyptian port. Terms, payment against documents. Reference.

31563.—A business man in Canada desires to act as manufacturers' agent for the sale in Canada of hardware and electrical specialties. References.

31566.—A mercantile agency firm in Portugal desires to secure agencies and receive goods on consignment, and also import on own account for the sale of agricultural implements and machinery, automobile accessories, including tires, and any other lines which will find a market in that country. Correspondence may be in English. References.

31592.—A civil engineer in Sweden desires to secure an agency for the sale of agricultural machinery and implements, hardware, metals, and tools. References.

### COMING CONVENTIONS.

Sheet Metal Contractors' Association of Pennsylvania, Penn-Harris Hotel, Harrisburg, January 8, 1920. First convention for purposes of forming organization. Edwin L. Seabrook, ex-officio Secretary of preliminary organization, 261 South Fourth Street, Philadelphia, Pennsylvania.

Western Retail Implement, Vehicle and Hardware Association, Kansas City, Missouri, January 13, 14 and 15, 1920. H. J. Hodge, Secretary, Abilene, Kansas.

Texas Hardware and Implement Association, Dallas, Texas, January 20, 21 and 22, 1920. A. M. Cox, Secretary, 1808 Main Street, Dallas, Texas.

Pacific Northwest Hardware and Implement Association, Davenport Hotel, Spokane, Washington, January 20, 21, 22 and 23, 1920. E. E. Lucas, Secretary, Hutton Building, Spokane, Washington.

American Washing Machine Manufacturers' Association, Hotel Sherman, Chicago, Illinois, January 21 and 22, 1920. Raymond Marsh, Secretary, 10 South La Salle Street, Chicago, Illinois.

The American Society of Heating and Ventilating Engineers, New York City, January 27, 28, and 29, 1920. C. W. Obert, Secretary, 29 West 39th Street, New York City.

Indiana Retail Hardware Association, Athenaeum Hall, Indianapolis, Indiana, January 27, 28, 29, and 30, 1920. Exhibit in same hall. G. F. Sheely, Secretary, Argos, Indiana.

Oregon Retail Hardware and Implement Dealers' Association, Imperial Hotel, Portland, Oregon, January 27, 28, 29 and 30, 1920. E. E. Lucas, Secretary, Hutton Building, Spokane, Washington.

Kentucky Hardware and Implement Dealers' Association, the Armory, Louisville, Kentucky, January 27, 28, 29 and 30, 1920. Hardware, Implement, and Vehicle exhibit. J. M. Stone, Secretary, Sturgis, Kentucky.

West Virginia Retail Hardware Association, Wheeling, West Virginia, February 3, 4 and 5, 1920. John H. Morgan, Secretary, Morgantown, West Virginia.

Nebraska Retail Hardware Association, Lincoln, Nebraska, February 3, 4, 5, 6, 1920. Nathan Roberts, Secretary, Lincoln, Nebraska.

Wisconsin Retail Hardware Association, Milwaukee, Wisconsin, February 4, 5, and 6, 1920. P. J. Jacobs, Secretary, Stevens Point, Wisconsin.

Iowa Retail Hardware Association, Auditorium, Des Moines, Iowa, February 10, 11, 12 and 13, 1920. A. R. Sale, Secretary, Mason City, Iowa.

Michigan Retail Hardware Association, Hotel Pantlind, Grand Rapids, Michigan, February 10, 11, 12 and 13, 1920. Exhibit in Furniture Exhibition Building. Arthur J. Scott, Secretary, Marine City, Michigan.

Pennsylvania and Atlantic Seaboard Hardware Association, Bellevue Stratford Hotel, Philadelphia, Pennsylvania, February 10, 11, 12, and 13, 1920. Exhibition in Philadelphia Commercial Museum. Sharon E. Jones, Secretary, 1314 Fulton Building, Pittsburgh, Pennsylvania.

North Dakota Retail Hardware Association, Grand Forks, North Dakota, February 11, 12 and 13, 1920. Hardware exhibit in Grand Forks Municipal Auditorium. C. N. Barnes, Secretary, Grand Forks, North Dakota.

Illinois Retail Hardware Association, Hotel Sherman, Chicago, Illinois, February 17, 18, and 19, 1920. Exhibit in connection. Leon D. Nish, Secretary, Elgin, Illinois.

Minnesota Retail Hardware Association, St. Paul Auditorium, St. Paul, Minnesota, February 17, 18, 19 and 20, 1920. H. O. Roberts, Secretary, 1030 Metropolitan Life Building, Minneapolis, Minnesota.

New York State Retail Hardware Association, Onondaga Hotel, Syracuse, New York, February 17, 18, 19 and 20, 1920. Exhibition in State Armory. John B. Foley, Secretary, 607 City Bank Building, New York City.

Missouri Retail Hardware Association, St. Joseph Auditorium, St. Joseph, Missouri, February 17, 18, and 19, 1920. F. X. Becherer, Secretary, 5136 North Broadway, St. Louis, Missouri.

New England Hardware Dealers' Association, Mechanics' Building, Boston, Massachusetts, February 23, 24, and 25, 1920. George A. Fiel, Secretary, 10 High Street, Boston, Massachusetts.

South Dakota Retail Hardware Association, Sioux Falls, South Dakota, February 24, 25, 26, and 27, 1920. Exhibit in connection. H. O. Roberts, Secretary, Metropolitan Life Building, Minneapolis, Minnesota.

Virginia Retail Hardware Association, Murphy's Hotel, Richmond, Virginia, February 25, 26 and 27, 1920. Thomas B. Howell, Secretary, Richmond, Virginia.

Ohio Hardware Association, Hotel Gibson, Cincinnati, Ohio, February 24, 25, 26 and 27, 1920. James B. Carson, Secretary, Dayton, Ohio.

Michigan Sheet Metal Contractors' Association, Saginaw, Michigan, March 2, 3, and 4, 1920. F. E. Ederle, Secretary, Grand Rapids, Michigan.

National Warm Air Heating and Ventilating Association, Cleveland Hotel, Cleveland, Ohio, April 21, 1920. Allen Williams, secretary, Columbia Building, Columbus, Ohio.

Stove Founders' National Defense Association, Boston, Massachusetts, May 11, 1920. R. W. Sloan, Secretary, 826 Connell Building, Scranton, Pennsylvania.

Old Guard Southern Hardware Salesmen's Association, Marlborough-Blenheim Hotel, Atlantic City, New Jersey, May 12, 1920. R. P. Boyd, Secretary, Knoxville, Tennessee.

Southern Hardware Jobbers' Association, Marlborough-Blenheim Hotel, Atlantic City, New Jersey, May 11, 12, 13, and 14, 1920. John Donnan, Secretary, Richmond, Virginia.

American Hardware Manufacturers' Association, Marlborough-Blenheim Hotel, Atlantic City, New Jersey, May 11, 12, 13, and 14, 1920. F. D. Mitchell, Secretary, 4106 Woolworth Building, New York City.

National Association of Stove Manufacturers, Boston, Massachusetts, May 12 and 13, 1920. Robert S. Wood, Secretary, National State Bank Building, Troy, New York.

National Association of Sheet Metal Contractors, Peoria, Illinois, June 8, 9 and 10, 1920. Edwin L. Seabrook, Secretary, 261 South Fourth Street, Philadelphia, Pennsylvania.

### RETAIL HARDWARE DOINGS.

#### Arkansas.

The Mansfield Hardware Company at Fort Smith has been purchased by the Rogers Hardware Company.

#### Kansas.

Utter and Dusmoor have opened a hardware business at Long Island.

#### Minnesota.

John Westman has purchased a half interest in the Sands Hardware Company at Bock.

The Villwock Brothers' implement business at Hewitt has been sold to Naeske Brothers.

Robert Radtke will open an implement business at New Ulm.

Mallum and Jacobson have bought the Lewis implement business at Preston.

Olson and Seitzer have opened a hardware store at St. Peter.

J. P. Dieltz and J. T. Tyler have opened an implement business at Villard.

Mr. Schirkolk has retired from the hardware business of Schirkolk and Martens at Welcome.

#### Michigan.

M. A. Benson has sold his hardware business at Saranac to Hawley Brothers.

#### Missouri.

The Carmean-Reynolds Hardware Company of Carthage has purchased the Franz Hardware Store at First and Allen Streets, Webb City.

Ben R. Graham has sold his interest in the Mexico Hardware Store at Mexico to R. L. Gooch and has retired from the firm.

J. H. Wilson has sold his interest in the Guilford Hardware Store at Guilford.

#### Nebraska.

Wingert Brothers have sold their hardware business at Wood River to Mullin Brothers.

#### North Dakota.

J. S. McGrann will open a hardware business at Gwinner.

A. D. Spannatz has bought a hardware store at Lane.

#### Wisconsin.

Eugene Washburn has sold his hardware store at Humbird to Jake Zook.

# AUTOMOBILE ACCESSORIES SOLD BY HARDWARE DEALERS

## CUTTING OF PRICES DOES NOT AID AUTOMOBILE ACCESSORY SALES.

In selling automobile accessories the prices should not be cut to stimulate sales. Price cutting is a method that never brings favorable results in the end.

You should know how long it takes and how much it costs to fit or install accessories even though you may not be equipped to do the work yourself. In almost every case the goods are worth the price that has been fixed on them and should not be sold at any other. Once you make a special or cut price on an article it is very hard to reinstate correct prices, and not only is the profit on that special sale lost, but the profit on after sales as well.

If prices are cut on certain articles prices must be raised on other articles to cover the loss. Then the buyer of the higher-priced goods is not getting a square deal. Get your price, don't let your customer beat you out of a nickel here and there on the purchase of his motor car supplies. In the long run the dealer profits most who serves this trade the best.

All customers should pay the same price and be treated alike. Up-to-date dealers practice the one-price policy and tag each article plainly, showing the price. It is the best and most profitable way of doing business.

## THE SOURCE OF DEMAND IS LARGE.

The source of demand for automobile accessories is large. There are always active forces that augment the need for various automobile supplies. Spark plugs will wear out and ignition has to be watched closely to give best results. A stock of parts good for well known machines is wise to carry, and oils and greases are required constantly and should make a good business for the dealer who makes it known he is in the accessory business.

Being moderately priced, automobile accessories can be advantageously handled by the hardware retailer. There is not the inclination for one to look over every stock in the town, as would be the case when the customer is considering buying a car or a tractor. As the accessory often is simply another element of comfort in the car it is more easily salable than not.

When a stock of accessories has been put into the store, the dealer should not neglect to let the public know it through advertising, letters, window displays, case exhibits and personal solicitation.

This is a business which should not be hid under a bushel measure but must be noised to the community loudly and continuously to make a respectable showing for the department as compared with older departments in the store.

## HARDWARE STORE IS LOGICAL PLACE FOR AUTOMOBILE ACCESSORIES.

It is not far-fetched to say that the hardware merchant who does not sell automobile supplies thereby loses a very important source of increased sales and profits, and the only reason why so many garage keepers have built up quite a prosperous business on these supplies is that the local hardware dealer was not "on the job."

Because the local garage dealer is vigorously seeking this trade is no reason why the hardware dealer should not pull it back where it belongs—in the hardware store. That this can be done has been demonstrated in many instances, although of course it requires harder work and greater attention than if there had been no competition of that sort to contend with.

Sales of automobile supplies are expediently turned into profits and the profits are good, considering the investment that is necessary and the number of times the stock can be turned with proper care.

## CAN FIND WAYS TO INCREASE SALES.

When a hardware dealer purchases a stock of automobile accessories he should not be deluded with the belief that the goods will sell themselves. Time and thought should be given to increase sales by every possible legitimate method. One way is to keep your customers and prospective customers well supplied with reasons why they should buy your goods. Many car owners do not know the uses of certain articles, or are not aware of the existence of certain articles. This sales effort can take the form of personal solicitation, local newspaper advertisements, catalogues, price sheets, circulars, and the other many advertising and selling plans. Put into the heads of your customers plenty of the reasons why they should buy and you stand to get an order sooner or later.

In particular communities the retail hardware dealer can find specific means to increase his sales on this profitable line. The dealers' endeavors in this direction should be strenuous—the returns will be equal to the effort.

The Weber Carburetor Company, Boston, Massachusetts, has been incorporated with \$400,000 capital, by Harold E. Clarke, Worcester, Massachusetts, James L. Doyle and George E. Richardson.

The New England Spark Intensifier Company, Cambridge, Massachusetts, has been incorporated with \$5000 capital to make auto accessories by G. F. Farnum Jr., Thomas F. Carey and Frank A. Keaney.

About the time a man begins to feel his importance others begin to doubt it.

# ADVERTISING CRITICISM AND COMMENT

*Helpful Hints for the Advertisement Writer*

An uncommonly clever advertisement is reproduced herewith from the *Meridian Star*, Meridian, Mississippi. The wording is graphic and persuasive. The Switzer Hardware Company, which ran the advertisement, presents a picture of the advantages of

the right places. There are no waste words. Every noun, verb and adjective is made to do one hundred per cent duty. It is an advertisement which may well serve as a model of its kind.

An excellent example of clearness of presentation is illustrated in the advertisement reproduced herewith from the *Rochester Democrat and Chronicle* of Kennedy and Company, 22 South Avenue, Rochester, New York.

The housewife in these times of high costs has in mind strict economy. Starting their advertisement

**SWITZER HARDWARE CO.**  
2404 5th St., Meridian, Miss.

## The Remedy for Frosty Mornings

- no more barefoot trips to the basement
- no more dressing in an ice cold room
- no more big fuel bills to pay
- no more fires to build.

Simply roll out of bed and dress in your rooms made warm and cheerful by the even day and night heat of

## Cole's Original Hot Blast

**BURNS CHEAPEST COAL CLEAN AND BRIGHT. USES ANY FUEL**

If last winters fuel bill was hard to pay what will it be this year with fuel higher than ever. Now is the time to stop waste. If you want a small fuel bill this Winter, you need this remarkable fuel-saving heater. Act today.



No. 113

Cut Shows Model No. 108

Real Heater Satisfaction

Cole's Original Hot Blast both in text and illustration, which is the very essence of salesmanship. Simply rolling out of bed and dressing in rooms made warm and cheerful by the even day and night heat of such a stove appeal strongly to the imagination. The whole argument of the advertisement is intimate, powerful and convincing. The layout is artistic and distinctive. The display emphasis is placed in precisely

## The Dangler Gas Saving Range



We firmly believe the Dangler Gas Range to be the most efficient and economical gas range possible to buy.

Come in and let us demonstrate how the famous Dangler Rotary Gas Burner will save gas for you, and do your cooking quicker and easier

There are many beautiful Dangler models from which to choose, and everyone possesses the patented Rotary Gas Burner—the big gas saver. Let us demonstrate this range for you.

**Perfection Oil Heaters—All Styles, \$6.25 Up. Gas Heaters \$2 to \$10.**

## KENNEDY & CO.

22 SOUTH AVE.  
Four Doors From Main Street.

with the caption "The Dangler Gas Saving Range," Kennedy and Company hit the nail on the head. They have carefully considered the attitude of prospective purchasers. Then proceeding to state the advantages of the product advertised, they conclude by clearly setting forth the price of the product. This method is supported by the best practices. Above all things, the price of an article is the factor which will determine whether the prospective buyer will purchase from the advertiser. This does not mean that because the price advertised on an article is slightly above that of a similar product of inferior make, the purchaser will be deterred from buying.

# HEATING AND VENTILATING

## BECOMES TRAVELING SALESMAN FOR R. J. SCHWAB AND SONS COMPANY.

With a territory embracing Northern Indiana and Illinois, Mark Dean has become associated with R. J. Schwab and Sons Company of Milwaukee, Wisconsin, as traveling salesman. He has a wide acquaintance in the warm air heater trade. He is well fitted to explain the merits of the line of warm air heaters made by R. J. Schwab and Sons Company, because he is thoroughly skilled in the technique of manufacture, distribution, and installation of warm air heaters. He is the author of two books on heating and is, besides, an inventor of considerable talent and ability.

## COVERS MANY VITAL QUESTIONS ON WARM AIR HEATING IN HAND BOOK.

"What is a return flue, and under what conditions should it be used?" asks Charles L. Hubbard in his book, *The Ventilation Hand Book*. Mr. Hubbard answers his own question. He uses the interrogatory method of diffusing knowledge. His answer to the question on the description and use of a return flue is:

"A return flue is an arrangement whereby a portion or all of the air supplied to the warm air heater may be taken from inside the building instead of the cold-air duct. It should only be used for warming up the building quickly in the morning and on windy days when there is considerable inward leakage of cold air around doors and windows."

The questions on warm air heating and ventilation in general covered by Mr. Hubbard in his book are extensive. Regarding the smoke pipe and chimney flue he says:

"What special conditions should be noted in connection with the smoke pipe and chimney flue?"

"The smoke pipe should be made the full size called for by the warm air heater outlet and should be carried to the chimney as directly as possible without the use of unnecessary bends, which tend to increase the resistance and diminish the draft. Protection against fire should be provided for, where pipes pass through wooden partitions, by the use of a soapstone or double perforated metal collar having a diameter at least 8 inches greater than that of the pipe. A space of 8 inches or more should be left between the top of the smoke pipe and unprotected beams. If these are covered with asbestos board or plaster and sheet metal, the space may be reduced to a minimum of 6 inches."

Care should be taken in the selection of a line of warm air heaters to be handled. Most installers know the details of construction of the average warm air heater. But they are apt to be misled, sometimes,

by the claims of some irresponsible manufacturers who spring up over night. On the vital parts of a warm air heater when considering its selection Mr. Hubbard states:

"What are some of the more important parts of a warm air heater which should receive attention when making a selection?"

"The grate, fire-pot, dome or combustion chamber, radiator and casing."

The parts mentioned by Mr. Hubbard are the very essence of the warm air heater. When pondering over a number of lines of prospective warm air heaters that can be handled, the dealer should go beyond the seemingly most important point—his apparent profits. He should take into mind the details of satisfaction which the product will guarantee to the ultimate consumer. By so doing he not only looks after his profits but insures a continuance of them.

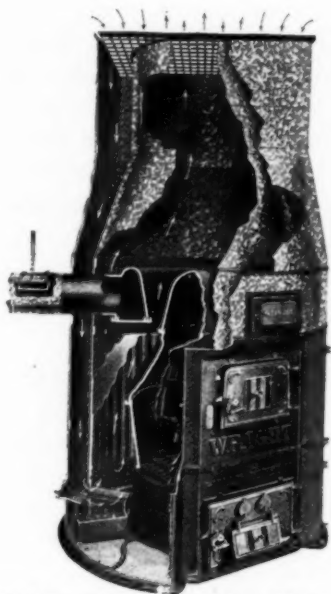
## BUILDS ENTIRELY OF CAST IRON.

Being built entirely of cast iron, the Niagara Warm Air Heater, made by The Forest City Foundry and Manufacturing Company, Cleveland, Ohio, is strong and will last an unusually long time. To insure easy manipulation, the ash pit is deep and roomy. Even in the case of carelessness or neglect, an accumulation of ashes in the ash pit of the Niagara Warm Air Heater would not interfere with the proper burning of the fire, state the manufacturers. A triangular grate is installed in this make of warm air heaters. It is designed to give satisfaction and long service. The construction of the triangular grate is simple. Any part can be easily replaced. To remove simply raise the latch. By this means the entire grate is tipped forward and can be removed at will.

The feed section is made in one piece. It has large double doors. Big chunks of coal or wood are no hindrance to the firing of the Niagara Warm Air Heater, declare the makers. Besides the Niagara regular Warm Air Heater, The Forest City Foundry and Manufacturing Company are the manufacturers of the Niagara Pipeless Warm Air Heater. This is an excellent heating plant. The grating is similar to the type installed in the multiple warm air heater made by this company. The fire pot is made in two pieces. It is corrugated. Deep cup joints add to the strength of the fire pot. According to the manufacturers, the radiator is so made that the heat and smoke will travel around both sides of the top before entering the smoke exit. It is claimed that all the heat is extracted by this arrangement. Details, prices and terms of agency for both the Niagara regular and pipeless Warm Air Heater can be secured by writing to The Forest City Foundry and Manufacturing Company, Cleveland, Ohio.

### HAS TRIANGULAR REVOLVING GATE.

The Wright Pipeless Heater which is manufactured by The Mahoning Foundry Company, of Youngstown, Ohio, is made of cast iron, no sheet iron being used. It has a special humidifier with extra large grills and



Wright Pipeless Heater, Made by  
The Mahoning Foundry Company,  
Youngstown, Ohio.

is fitted with a triple inner lining. This heater comes completely fitted out with all accessories with the exception of the smoke pipe. It is easily installed, there being no walls to cut for the heating pipes. The base is cast in one piece, the casing diameters being large and scientifically made for the proper air circulation. A heavy triangular revolving grate gives a maximum amount of opening for the passage of air to feed the fire and at the same time has closely set teeth which will prevent the wasting of

unburnt fuel by dropping through the bars. These heavy, sharp teeth will break up clinkers and drop the dead ashes, in this way keeping up a good fire. The cup joints are extra large on all castings and the ash door opening is big so that the grate can be removed through the ash door without disturbing the heater. The Mahoning Foundry Company of Youngstown, Ohio, will be pleased to send literature and further details to those writing for same.

### MIDLAND CLUB ELECTS OFFICERS.

The factor of cooperation which is the main force operative in the deliberations of the Midland Club was strengthened at the meeting of that organization in the Hotel Sherman, Chicago, Illinois, Saturday forenoon, December 20, 1919. The quiet but effective influence of the Midland Club in the warm air heater industry was brought into action in the furtherance of the general welfare by a joint conference (during the meeting) with the Western Warm Air Furnace and Supply Association. The members of both organizations were convinced that a closer combination of quality and service is to the advantage of producer, distributor and consumer.

An election of officers was held and the following members were chosen to conduct the affairs of the Midland Club for the ensuing year:

President: JOHN D. GREEN, Detroit Stove Works, Detroit, Michigan;

Vice-president: J. M. TRIGGS, The Majestic Company, Huntington, Indiana;

Secretary-treasurer: ALLEN W. WILLIAMS, Columbus, Ohio.

Executive Committee: W. C. Williamson, The

Williamson Heater Company, Cincinnati, Ohio; D. M. Compton, Quaker Manufacturing Company, Chicago, Illinois; E. P. Miller, The Lennox Furnace Company, Marshalltown, Iowa; George Harms, F. Meyer & Brother Company, Peoria, Illinois; Charles Seelbach, Jr., Forest City Foundry and Manufacturing Company, Cleveland, Ohio; J. T. Templeton, St. Louis, Missouri.

### INSTALLERS GAIN ADVANTAGES BY SPREADING INFORMATION ON HEATER OPERATION.

It shows a lack of business insight for an installer to be indifferent to the operation of a warm air heater after he has completed the job of installation. Such a dealer will not get the business a discerning installer would win in the same territory. It is to the interest of the warm air heater installer to see to it that the heaters he installs function properly—that is to say, that they not only give the average amount of satisfaction, but produce the highest amount of heat for the quantity of fuel used. This is not the opinion of one outside the pale of the warm air heating industry. Dealers all are agreed that one of the best means of getting new customers is by assuring satisfaction with every warm air heater installed. A good plan to obtain business is to get your customer to brag about how little coal he uses in his warm air heater. But even the proper installation of a warm air heater will not guarantee that the user will operate it properly. Dealers should instruct users how to take care of their heating plants. By disseminating various hints and methods pertaining to the operation of warm air heaters installers can gain the good will of both their customers and prospective purchasers.

Amedee J. Casey, writing in the *Brooklyn Eagle*, Brooklyn, New York, declares that a warm air heater properly handled can be made to pay for the family's shoes this winter. His hints and suggestions on how this is done will be of interest to warm air installers. They can employ this information to good advantage by transmitting it to warm air heater owners—if possible, to the community in general. They should instruct heating plant owners that a little study is required effectively to apply these suggestions. But it will pay in the end.

In order to effect this saving it is necessary to learn how to build and care for the fire, and how to work the dampers. It does not require more than average intelligence to acquire the knowledge to make a saving in the fuel bill. In the first place it must be supposed that the warm air heater is a good one, properly installed; that all the joints, crevices, etc., are tight, and that the flues are unobstructed. If these conditions do not exist, dispense with a pair of shoes and use the money to have the plant put in proper order. It should be borne in mind that the cheaper the warm air heater and the installation the greater will be the cost in the end. It must be seen that the warm air heater is clean throughout before starting the fire. A thin layer of soot exerts as much resistance to heat as ten inches of pig iron. All cracks should be filled with cement. If required, new sections should be

installed in order that the fire box may be rendered perfectly gas-tight. The cold air box should not be permitted to admit too much outside air, especially on the very cold days. Care should be taken to have the water container in the air jackets always filled with clean water. Experiments have proved that moist air heats more readily and is healthier than dry air. Also, a few degrees less in the temperature will not be felt when the air is properly humidified, as would be the case if the air was unusually dry. Indeed, this is one of the universally acknowledged advantages of the warm air heater.

The chimney draft, kind of coal used, etc., must be considered when the care of the fire is undertaken. Too much shaking spoils the fire. It also wastes the coal. If the fire is low put on a little coal and give it time to start burning before shaking. In cold weather it is best to shake the fire only until a glow appears in the ash pit. When the weather is mild it is favorable to leave some ashes on the grates, as this makes a slow fire and saves coal. It is wasteful to shake the fire until live coals fall into the ashpit.

The bed of the fire should never be entirely covered when soft coal is used. This precaution is necessary because the gases will be given off faster than they can be consumed and a great deal of smoke and soot will result if the bed is covered. A good method is to push back the live coals almost down to the grates and put the fresh coal in the space left. By this means the gases will then be passed over the fire and be burned. If the warm air heater has a round firepot the fresh coal may be piled in the center, leaving the live coals around the edge.

Before starting the hard coal fire it is always a good policy to use plenty of wood. Allow it to burn up freely. The coal should be put on in small quantities at first. Plenty of time should be given it to burn before more is added. To obtain economical results, the fire pot should be filled to the level of the doors at all times. Too low fires waste coal. To put on too much coal at one time is to open the fire to the danger of smothering.

When banking the heater for the night the fire pot should be filled with fresh coal to the level of the fire door. The gases should be allowed to burn off. Then the damper should be closed in the ash pit door and the check damper opened. The fire should be well shaken in the morning.

#### MANY HEALTH DEPARTMENTS URGE CITIZENS TO PROVIDE FRESH AIR IN WINTER TIME.

It would seem, judging from the many bulletins urging the provision of fresh air in the home, issued by the various health departments, that much time might be saved by appointing the warm air heater dealer in each town supervisor of ventilation or heating. However, commercialism is not the function of the governmental health departments. Their duty is to present the facts as they find them upon impartial investigation. To the wide-awake dealer the recommendations of providing proper means of ventilation

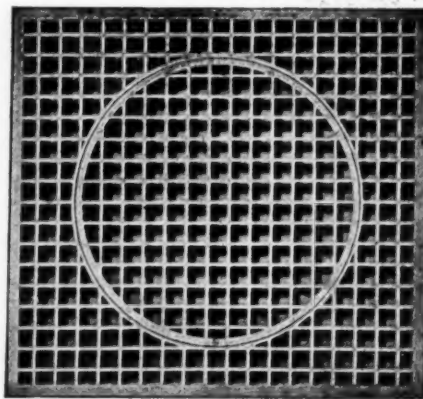
in the winter time are means of boosting the sales of warm air heaters.

The following, taken from a bulletin issued by the Chicago Department of Health, is descriptive of the urgings of health experts for supplying fresh air in the home in cold weather as well as in warmer weather.

"It seems an incredible statement to make, but good authorities say that forty per cent of all deaths are due to bad air. Of course this means that forty per cent of all our deaths are caused by the dirty air diseases. The great trouble is some people are ignorant as to the value of fresh air as a health promoting agency and many more are careless and indifferent as to the quality and quantity of their air supply.

#### MANUFACTURES GOODS OF QUALITY.

A reliable product begets confidence in the seller. While the distributor of inferior make of goods is soon found out and meets his due. Because through years of experience and dealing with the trade it has



Duplex Grating, Made by the Tuttle and  
Bailey Manufacturing Company,  
New York City.

learned the actual requirements of installation, the products of the Tuttle and Bailey Manufacturing Company, New York City, are reliable. Illustrated herewith is the Duplex Grating, made by the Tuttle and Bailey Manufacturing Company. These

gratings are especially manufactured to be installed in connection with pipeless warm air heaters. Built of a high grade metal they will withstand heavy usage, declare the manufacturers. When set in the floor they will fit evenly. Duplex Gratings for pipeless warm air heaters can be furnished in nine sizes. Beside the gratings described herewith, this Company manufactures an extensive line of registers, gratings, etc. Inquiries to the Tuttle and Bailey Manufacturing Company, New York City, concerning its line of products, will be promptly answered.

#### GET A RECEIPT FOR ALL CASH BILLS.

Neglecting to get receipts when bills are paid in cash shows a loose knowledge of business. Of course, the one you may have paid the bill to is your best friend and would never call for the payment again—why, he wouldn't think of it. But in all cases it is sound business practice to get a receipt. Have a tangible proof of your paid accounts.

Persistence is the cardinal virtue in advertising; no matter how good advertising may be in other respects, it must be run frequently and constantly to be really successful.

# PRACTICAL HELPS FOR THE TINSMITH

## PATTERN FOR DOUBLE ANGLE OFFSET.

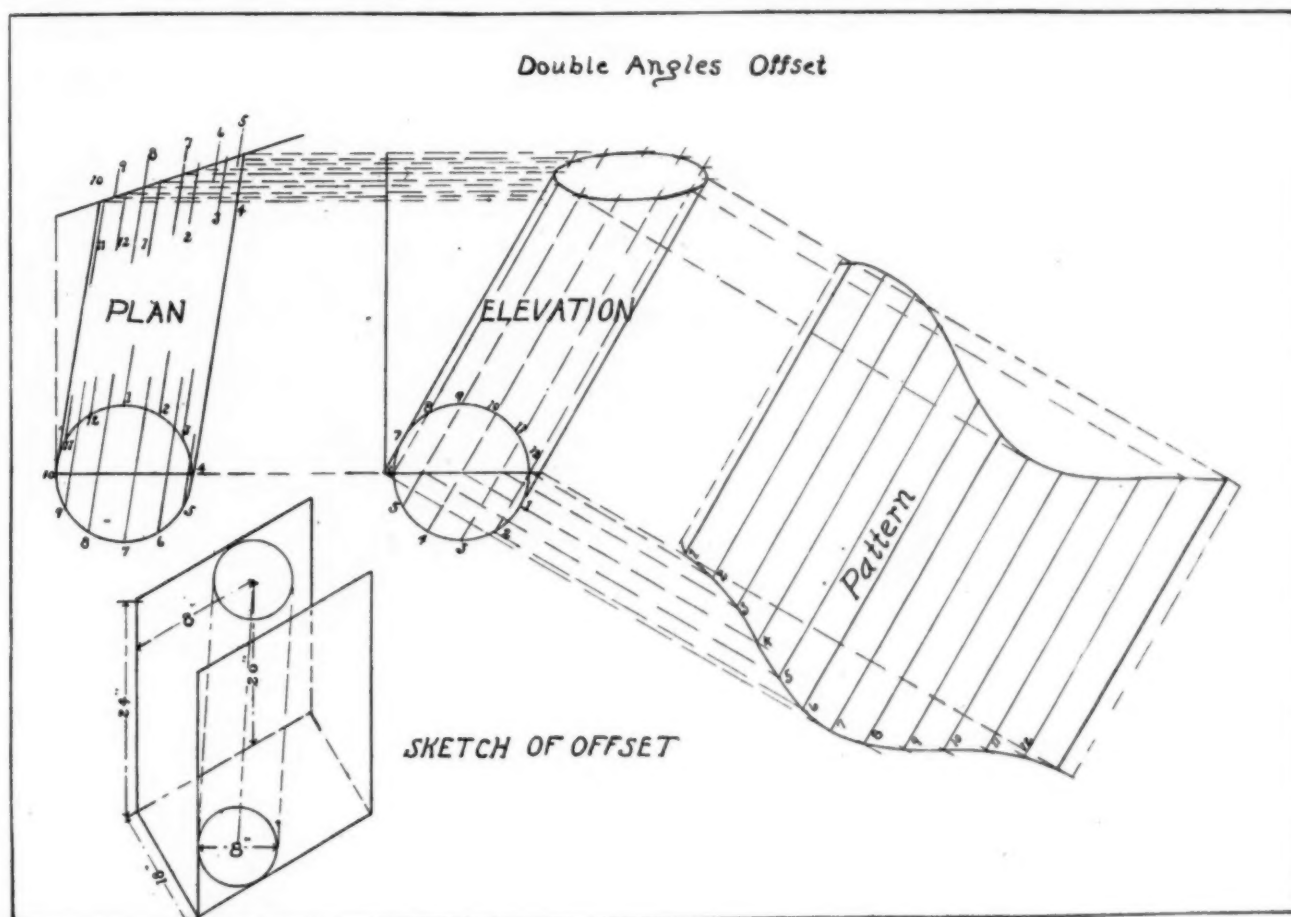
By O. W. KOTHE.

Sheet metal workmen meet with all kinds of pipe fittings and it is only the progressive sort of mechanic who sees them, stretches them, and generally is told to get them out. In this drawing we have a pipe 8 inches in diameter made of heavy metal. It runs be-

on both ends. Laps for riveting must be allowed extra.

## ORGANIZE COMPANY TO HANDLE SHEET METAL MACHINERY.

The A. L. Kirby Company has been organized by A. L. Kirby and A. J. Ellis at 828 Broad Street, New-



Pattern for Double Angle Offset.

tween two bulk-heads, with a rise of 20 inches to center and with an 8-inch offset. The bulk-head is at right angles and the other is on an angle of 30 degrees. The sketch shows this somewhat.

The layout becomes very simple when we look at the elevation, noticing the offset and section, then compare with plan offset and angle, also section to where the numbers change owing to the angle in plan. Much of this must be drawn as shown. Points must be followed and held to intersect thereby establishing the ellipse in elevation. This shows the angle of elevation and the position of miter cut.

The pattern is set out by picking the girth from elevation section and stepping it off at right angles to it. Draw stretchout lines and then from each point in elevation project over lines until they cut those of similar number. In this way we get the miter cuts

ark, New Jersey. This company will handle the machinery products of the Loy and Nawrath Company of Newark, New Jersey. However, they will not devote their entire energy to the marketing of the products of the Loy and Nawrath Company. Besides the goods of this company the A. L. Kirby Company will handle all kinds of machinery for sheet metal contractors. Their experience in this line of distribution enables them satisfactorily to fill the wants of the sheet metal trade.

## MILWAUKEE CORRUGATING COMPANY GIVES A CHRISTMAS BONUS TO ITS EMPLOYEES.

In pursuance of a practice originated a few years ago, the Milwaukee Corrugating Company, Milwau-

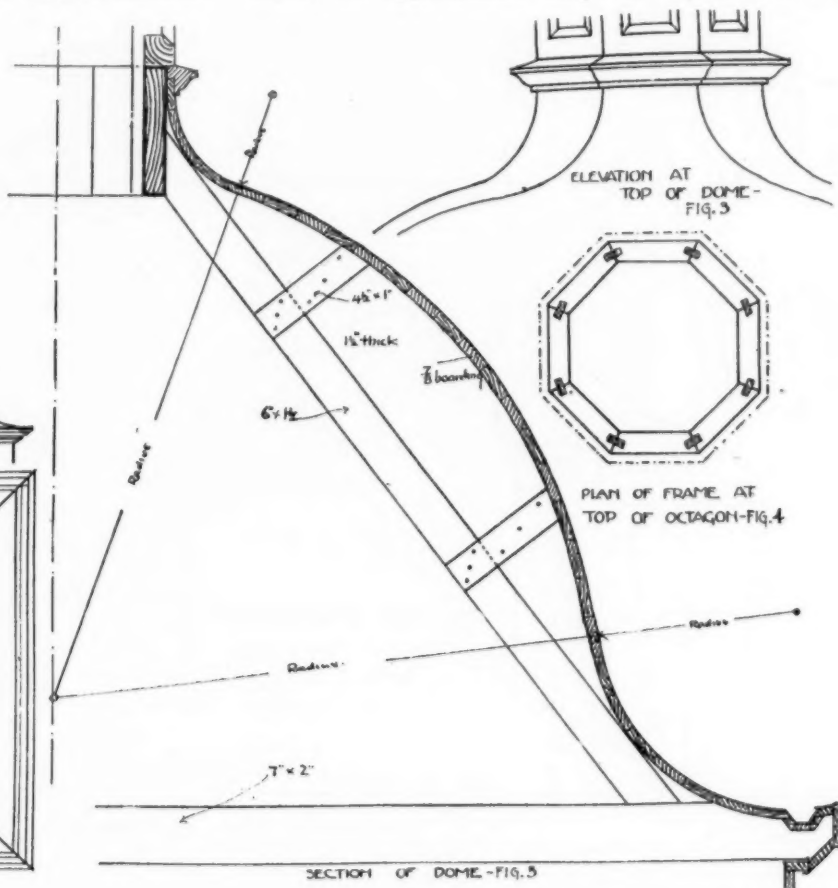
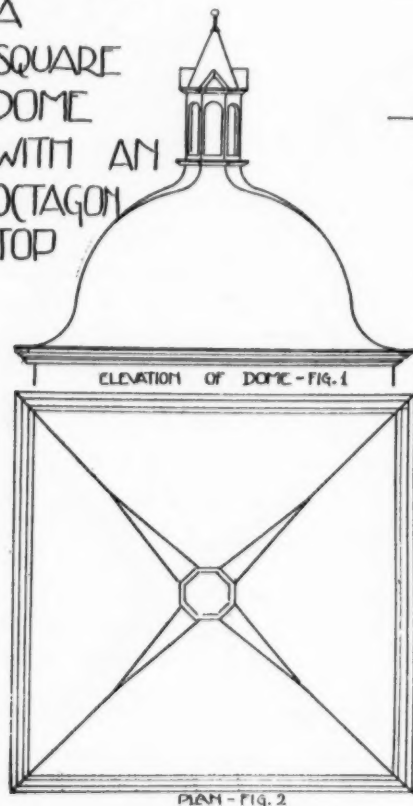
kee, Wisconsin, has distributed a Christmas bonus among its employees. The gratuity amounts to one full month's salary, if the employe has been with the company one year; three-quarters, one-half, and one-quarter of a month's salary were given to those who have been in the employ of the company nine, six, and three months respectively.

The management of the Milwaukee Corrugating Company notified its employees that the bonus was given them in appreciation of their loyalty and faithful services and in view of the present unusual economic conditions. It was suggested that the money be invested in Liberty Bonds, or other safe securities, in order to provide for a rainy day instead of spending it for amusement or for luxuries and non-essentials.

### EXPLAINS METHOD OF CONSTRUCTING A TIN COVERED DOME.

The setting out and cutting of the various members

BUILDING  
A  
SQUARE  
DOME  
WITH AN  
OCTAGON  
TOP



of a dome is always an interesting problem to the mechanic, and I am sure that this can be said of the present example, says John Y. Dunlop in the *National Builder*. The dome shown in the line drawings was erected by the writer over the music-room in a school. In the description I have left out the ceiling and other details and deal solely with the dome.

The plan of the roof at the eaves is square and this shape is maintained until the middle of the height is reached, where it gradually changes into a regular octagon shape at the top. An octagon-shaped wooden ventilator was fitted into the octagon ring at the top of the dome.

To lay out the work, draw the lines of the ceiling joists according to the detail drawing at Figure 5. Al-

low the joists sufficient projection at the walls. From this the long ceiling joists can be cut and shaped at the band saw.

The short joists and the angle joist can also be laid out from this drawing.

To lay out the angle joists, project the several points on the shape of the end of the common joists onto a line at 45 degrees, which is the angle that the angle joists make with the common joists. See Figure 14. Then project the same lines at right angles to the 45-degree line and on these mark off heights to correspond with those on the shaped end of the common joist. Draw the true shape of the angle joist by tracing lines through those points. See Figure 6. The end of the short joist is generally checked onto a fillet, which is nailed along the outside of the first and last long joist. These checks can also be taken out with the band saw.

In setting off the joists and the curved ribs for the dome, the approximate shape of the section of the

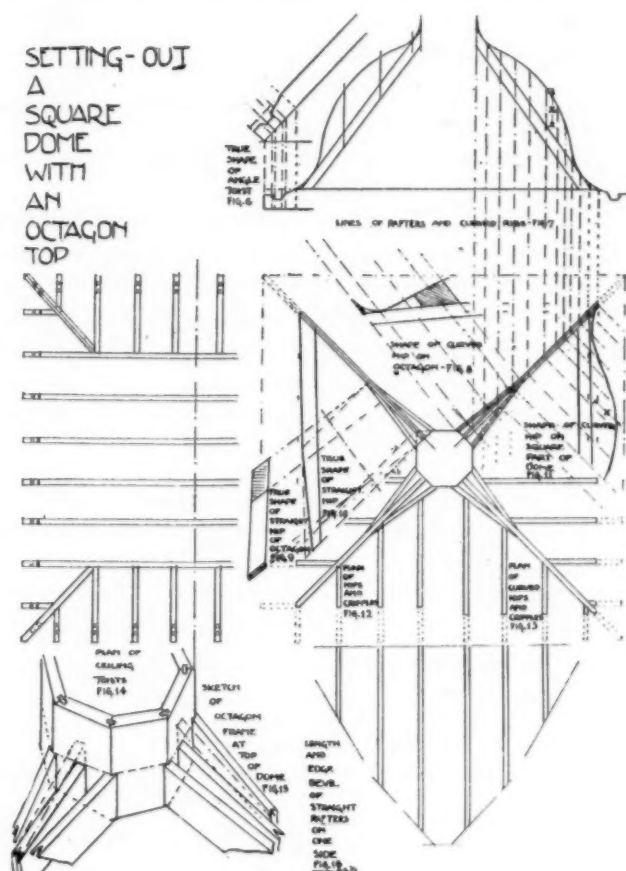
venient to set off the line of the face of the octagon frame at the top and the ends of the joists at the bottom; then set out the three centers and draw the line of the curved ribs, and afterwards add the rafters. See Figures 5 and 7.

All of the rafters are cripples, or in other words, there are none of them the full length of the sloping sides of the roof. In Figure 12 is shown a part plan of the cripples and hip rafters. While at Figure 13 is a part plan of the curved ribs. There is very little difference in the plan of those two parts of the dome except that the ends of the circle ribs come a little dome of the cornice should be obtained from the architect's drawings. See Figure 1.

In laying out the dome, it will be found most convenient the eaves of the roof.

With the plan of the framing set out, the next thing to do is to get the length of the straight trip rafter. See Figure 10. This is shown in the usual way by setting up on the plan of that member the height and drawing the true side view. In this particular case care must be used in setting off the height because of the changing shape of the dome. Of course, if the shape at the top of the dome were square, the height of the hip on the square could only be the same as the height of the common rafter.

Now let us square one corner of the frame at the top of the dome, which is done in the drawing by dotted lines, and from this right-angled corner set off



a line "a" at right angles to the plan of the hip. Now if we set off the height of the common rafter on this line and draw the line of the hip we will have its true shape. But the plan of the hip rafter shows that it travels in past the square corner which we have drawn until it meets the octagon frame, and this little bit has to be added on. Draw a line "b" at the line of the octagon and at right angles to the plan of the hip. Then extend the lines of the hip until they meet this dotted line and we have the true length of the hip rafter on the square.

Of course as the hip is shown with the dotted lines in the drawing it is too high for the other rafters, and what we want to do is to cut a wedge-shaped piece off the top edge at the highest end, so that the top edge which butts against the octagon frame will be the same height as the common rafters from the top of the ceiling joist.

At first glance it is possible that the cutting of this wedge-shaped part from the top of the hip may

appear a little strange, but if reference is made to Figure 15 it will be seen what would be the results if the straight hip was cut and set in line with the square side of the dome without this wedge-shaped piece being cut away. From the point where the short, octagon hips meet, the hips would gradually rise higher and higher until at the apex they would be several inches above the line of the roof on the sides.

The true shape of the short, octagon hips at the top of the dome is shown to the left of the hip on the square. These would be cut in pairs, with a long side bevel on the lower end and birdmouthed at the top.

The top and bottom bevels of the cripple rafters are obtained from Figure 7, which also shows the true length and the side bevel.

With all those straight members cut the next operation is to obtain the shape and cuts of the curved pieces which go on top of the straight rafters.

The outline of these curved members for the common rafters is shown in Figure 7.

The true shape of the curved rib on the square hip is shown in Figure 11, while the portion on the octagonal part of the hip is shown in Figure 8.

The true shape of these hip ribs is obtained by dropping any number of projections from the common rib to meet the center line of the plan of the hips. Then they are projected at right angles to the plan of the hip and the heights in the new shape made to equal those in Figure 7.

That is, in Figure 11 the dimension "x" is made equal to the corresponding dimension "x" taken from Figure 7. Any number of points may be determined in this manner and the curve drawn through them.

To obtain the fine shape of the curved rib of the octagon hip, the projectors are also taken from the common section, but this time they are first projected from the center line of the long hip until they intersect with the center line of the short octagon hip. Then, at right angles to the center line of the short, octagon hip, project these lines as shown in Figure 8. The points of the curve are determined as in Figure 11.

The backing of these members should be formed with a draw knife when the hips have been fixed in position and just before the cripple rafters are put up.

The boarding of the dome is shown plain jointed, but it should be carefully laid and cleaned off to form an even surface for the dome covering.

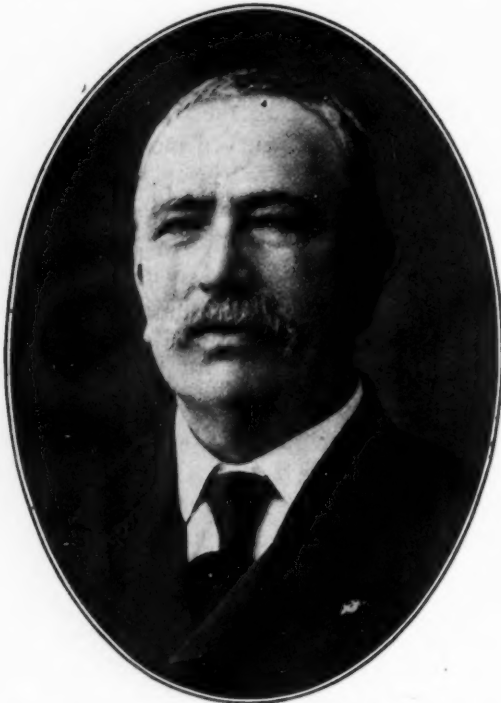
## OBITUARY.

### T. P. Walsh.

One of the best known men in the hardware and sheet metal business in the Southwest passed away Friday, December 19, 1919, in the person of T. P. Walsh, of San Antonio, Texas. He was born in Galway, Ireland, in 1858, and came to America the following year. He was reared and educated in Nashville, Tennessee, where he learned the sheet metal trade. Shortly after his marriage he moved to Texas and went into the hardware and sheet metal business in Paris, Texas, with George Baldwin. Subsequently, he went to San Antonio, Texas, and organized what is now one of the largest sheet metal shops in the

South, known as the T. P. Walsh Sheet Metal Works. Mr. Walsh was connected with the National Association of Sheet Metal Contractors from the inception of that organization. He took an active and forceful part in the state and local associations of the trade, and his influence was always exerted along lines of cooperation and betterment. He was the only man from the South to be appointed on a committee of nine to act as advisors to the Government on the sheet metal industry during the war.

He was highly esteemed in Masonic circles and held many of the highest offices in the craft. He endeared himself to numerous friends and associates by the kindness of his disposition and by his unflag-



ging spirit of helpfulness. He was buried with full Masonic honors and the funeral services were in charge of the Knights Templar.

#### **Hugh McCaffrey.**

At the ripe age of seventy-six years, Hugh McCaffrey, President of the McCaffrey File Company, Fifth and Berks Streets, Philadelphia, Pennsylvania, passed away at his home in that city, 1711 North Fourth Street, after a brief illness. He was born in Ireland in 1843 and received his education in the national schools of that country, becoming an assistant teacher at the age of fifteen years. He came to Philadelphia, Pennsylvania, in 1859 and went to work as an apprentice for his elder brother, Arthur, to learn the trade of file making. With his younger brother John for a partner, he began the manufacture of files and rasps in January, 1863, under the firm name of McCaffrey and Brother. In July, 1889, the business was incorporated under the title of The McCaffrey File Company.

He was a life member of the Manufacturers' Club, Franklin Institute, Pennsylvania Historical Society, American Catholic Historical Society, of which he was a trustee; American Irish Historical Society, the Friendly Sons of St. Patrick, of which he was a former president. He was one of the committeemen

that had Commodore Barry's statue erected in Independence.

He also was a member of the Chamber of Commerce, National Association of Manufacturers, American Hardware Manufacturers' Association, Hardware Merchants and Manufacturers' Association of Philadelphia, and a member of the Board of Managers of the Beneficial Saving Fund.

### **NOTES AND QUERIES.**

#### **Address of Oakland Foundry Company.**

From Hammond Cornice Works, 94 Plummer Avenue, Hammond, Indiana.

Can you tell me the address of the Oakland Foundry Company, manufacturers of the Zero King warm air heater?

Ans.: Belleville, Illinois.

#### **Pipe Mills.**

From P. W. Miller, 2003 East 10th Street, McKeesport, Pennsylvania.

Please give me the addresses of pipe mills that make their own sheets.

Ans.: Allegheny Steel Company, Oliver Building, Pittsburgh, Pennsylvania; Jones and Laughlin Steel Company, Pittsburgh, Pennsylvania; LaBelle Iron Works, Steubenville, Ohio; National Tube Company, Frick Building, Pittsburgh, Pennsylvania; Wheeling Steel and Iron Company, Wheeling, West Virginia, and the Youngstown Sheet and Tube Company, Youngstown, Ohio.

#### **Bottle Washers.**

From Jacob Losli, 310 First Street, Portland, Oregon.

Where can we secure bottle washers manufactured for small dairies?

Ans.: Davis-Watkins Dairymen's Manufacturing Company, 130 North Wells Street, and Advance Timmerman Company, 308 South Canal Street, both of Chicago, Illinois.

#### **Septic Tanks.**

From M. E. Southwick, Merville, Iowa.

Kindly advise who makes septic tanks either steel or cement.

Ans.: U. S. Sanitary Septic Tank Company, Memphis, Tennessee; Roberts-Hamilton Company, 413 South 4th Street, Minneapolis, Minnesota, and L. O. Koven and Brother, 154 Ogden Avenue, Jersey City, New Jersey.

#### **Rubber Expansion Plugs.**

From Decker Brothers, 908 Lincoln Way, LaPorte, Indiana.

Please inform us where we can buy rubber expansion plugs used in repairing and testing automobile radiators.

Ans.: F. L. Curfman Manufacturing Company, Maryville, Missouri.

#### **Radiator Cores.**

From A. B. Creacy, c/o Johnston Sheet Metal Works, 1503 Second Avenue, Rock Island, Illinois.

Can you advise me where I can buy radiator cores for automobiles?

Ans.: F. L. Curfman Manufacturing Company, Maryville, Missouri.

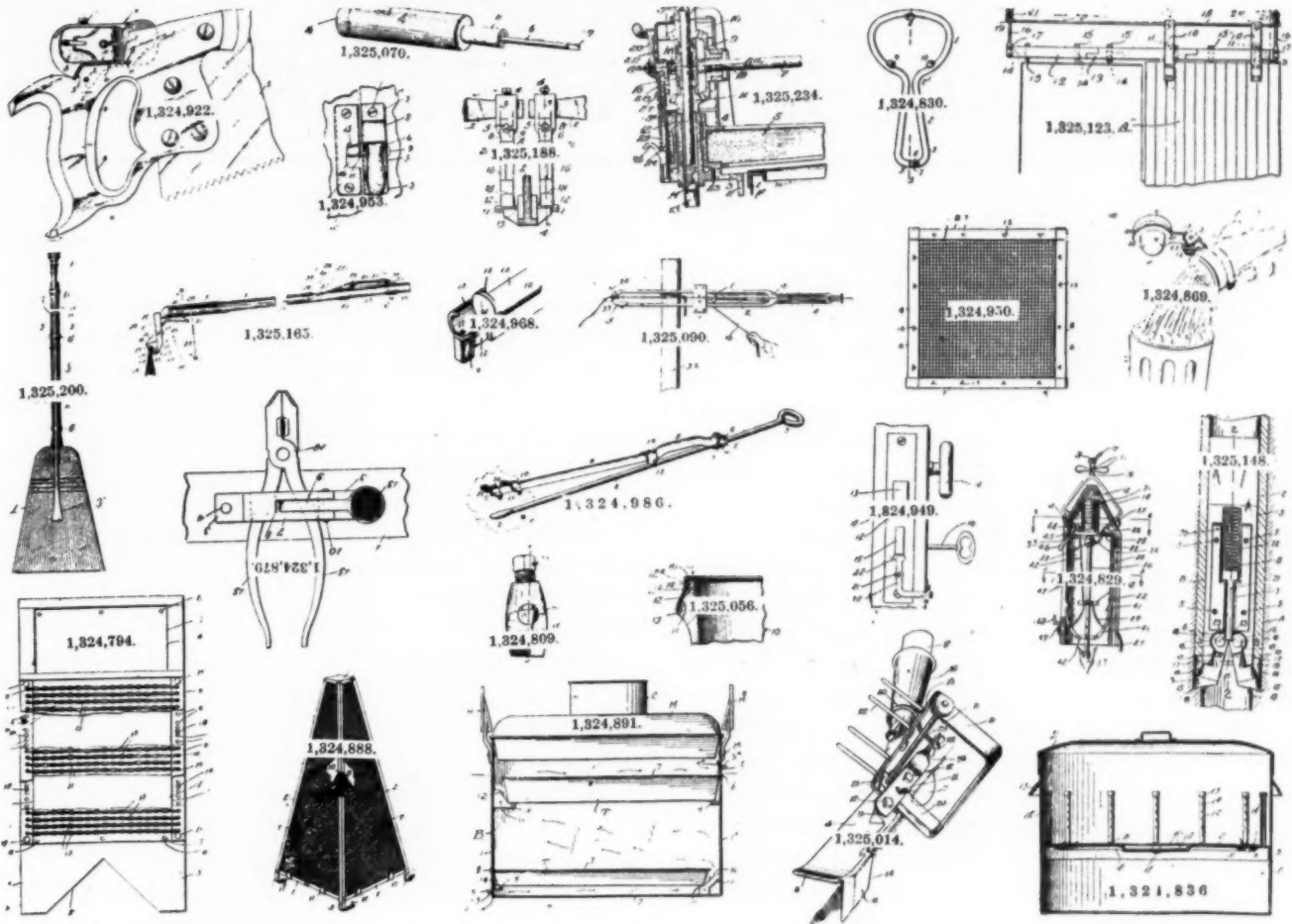
#### **Tinners' Second Hand Machinery.**

From F. A. Kellman, Galesville, Wisconsin.

Can you give me the address of companies in Chicago who handle tinners' second hand machinery?

Ans.: Charles Molitor Machinery Company, 118 South Clinton Street, Chicago, Illinois.

## NEW PATENTS.



## NEW PATENTS.

1,324,794. Washboard. James F. Butler, Quinlan, Tex. Filed Oct. 24, 1916.

1,324,809. Tool-Holder. Julian A. Giles, Derby, Conn., assignor to The Acme Tool and Machine Co., Derby, Conn., a Corporation. Filed Nov. 16, 1918.

1,324,829. Fishing Apparatus. Zakaris Kornis, Decatur, Ala. Filed June 18, 1919.

1,324,830. Remover or Opener for Bottle-Caps. Constant J. Kryzanowsky, Baltimore, Md., assignor to The Crown Cork and Seal Company of Baltimore City, Baltimore, Md., a Corporation of Maryland. Filed Feb. 4, 1915.

1,324,836. Washboiler. James W. McFarland, Brownwood, Tex. Filed May 3, 1919.

1,324,869. Bottle-Stopper. Guido Wolfermann, St Louis, Mo. Filed March 5, 1918.

1,324,879. Holder for Pliers. George W. Cole, Grant, Mich. Filed June 28, 1919.

1,324,888. Flycatcher. George M. Formby, Denton, Ga. Filed April 1, 1916.

1,324,891. Lunch-Bucket. Oliver Pierce Greenstreet, Baxter Springs, Kans., assignor to Oklahoma Zinc Products Co., Quapaw, Okla., a Corporation of Oklahoma. Filed May 3, 1919.

1,324,922. Plane Attachment for Handsaws. Halvor Olson, Belview, Minn. Filed June 19, 1919.

1,324,949. Lock Attachment. Stanley Ziobro, Westport, Conn. Filed May 23, 1919.

1,324,950. Window-Screen Frame. Rose Zrebiec, Woodlawn, Pa. Filed Oct. 2, 1919.

1,324,953. Latch. Elvah O. Bulman, Grand Rapids, Mich. Filed March 25, 1919.

1,324,968. Razor-Blade Holder. Erich Johnson, Cleveland, Ohio. Filed June 23, 1919.

1,324,986. Poker and Clinker-Extractor. Gustaf Selander, Chicago, Ill. Filed April 12, 1919.

1,325,014. Lawn-Edge Trimmer. John E. Gilson, Port Washington, Wis. Filed July 30, 1919.

1,325,056. Jar-Closure. Thomas L. Taliaferro, Chicago, Ill. Filed April 15, 1916.

1,325,070. Screw-Driver. Patrick Purifoy Andrews, Roanoke, Va. Filed Aug. 28, 1918.

1,325,090. Wire-Stretcher. Aaron A. Hansen, Rexburg, Idaho. Filed Sept. 7, 1918.

1,325,123. Sliding-Door Hanger. Julius C. Strom, Silverton, Ore. Filed July 22, 1918.

1,325,148. Underreamer. Bernard F. Fehlman, Midwest, Wyo., assignor of one-half to W. J. Cheley, Thermopolis, Wyo. Filed Nov. 12, 1918.

1,325,165. Combined Mop and Brush Handle. Stanislaw Obolewicz, Detroit, Mich., assignor to Joseph Nigbor, Detroit, Mich. Filed June 16, 1919.

1,325,188. Scale. William Wallace Boyd, Buffalo, N. Y., assignor to Buffalo Scale Company, Buffalo, N. Y., a Corporation of New York. Filed July 6, 1917.

1,325,200. Fountain Attachment for Brooms. Henry L. Kirsch, Dayton, Ohio. Filed Dec. 21, 1917.

1,325,234. Wringer Mechanism for Clothes-Washers. Forrest J. Couch, Spencerport, and James F. Wallace, Rochester, N. Y., assignors, by mesne assignments, to Rochester Washing Machine Corporation, Rochester, N. Y., a Corporation of New York. Filed Jan. 21, 1918.

## FEEL AS IF YOU WERE A PARTNER.

Don't feel that you have done either yourself or your employer justice by merely "putting in" a day. Feel that you are a partner in the enterprise—that the firm's success is your success—that no other interest should come before theirs.

## WEEKLY REPORT OF TRADE AND THE MARKETS

### INCREASING DEMAND TAXES ALL THE RESOURCES OF STEEL INDUSTRY.

The matter of greatest urgency in the steel industry today is not how to get business, but rather how to handle the business. No difficulty is being experienced in obtaining orders, but the mills are so far behindhand on production that much tonnage supposed to have been delivered this year will have to be carried over into the first quarter of 1920 and consumers who have not already placed their business are meeting with discouragement everywhere in their efforts, as the leading mills are only accepting business from their old customers, and that on a pro rata basis, while the jobbers and warehouses, usual last resort for supplies, have been cleaned up long ago.

Railroad buying is mostly contingent upon the return of the roads to private ownership, but it is reported that up to 1,000,000 tons have been placed within the past fortnight with this provisional understanding. The demand for replacements of steel supplies by the roads is coming from all sections of the country. Reports from Chicago indicate that upwards of half a million tons have been placed provisionally in that market.

The attempts of the country at large to bring industry back on the pre-war footing is bringing in an immense inquiry for steel products of all kinds. For instance, activity in the oil fields of the country was never greater, as operations are going forward as fast as they can be pushed, but here the workers are handicapped by the lack of steel piping, as tubular goods are scarce and the producing mills are tied up so far ahead with future contracts that no further business can be considered except in a few cases which have little bearing on the general situation.

Again, the automobile makers as well as the manufacturers of small parts for cars, etc., are simply unable to get sufficient steel and it is reported that some plants are curtailing operations, while a few of the smaller manufacturers have been forced to let down altogether.

### STEEL.

Prices of steel products are more or less of an uncertain quantity as the larger producers are endeavoring to maintain the old price schedule, but the smaller independents are obtaining substantial premiums for supplies. Demand for ship plates is very strong, especially on the Pacific coast, and many good orders have been reported recently with others pending.

With the coal strike out of the way as an active factor in the steel market and with the last effects of the shortage being gradually eliminated, the industry is resuming operations as fast as possible in order to catch up with the domestic demand before the railway

buying starts to dominate the market. The inquiry from every consuming class is so strong that the output of the mills is not sufficient to cope with it.

While no definite business has yet been started for the roads, sentiment is generally in favor of the return of the roads to private management and already orders for about 1,000,000 tons of rails and other steel products have been placed with delivery contingent upon the return of the railroads. This business is coming from both the East and West and the rail mills expect to be flooded with a rush of business, which has been held back for the last couple of years.

### COPPER.

The copper market is quiet, with a firm undertone and no change as regards prices. The demand is less active than it was, but as the producers sold large tonnages during the latter part of November and the early part of December their position has been much improved and they are in no need to seek further orders at this time.

Dealers still find it difficult to obtain copper owing to the producers' policy of doing business only with consumers.

There is not much activity in the outside market, and there is no doubt that the failure of producers to advance their quotations this week has had a sobering effect upon the speculative element who are not so keen as they were about paying high premiums for future deliveries.

A fair business in copper for domestic consumption was transacted during the past two weeks and prices have held steady for electrolytic. At the reported rate of domestic demand, the present curtailed smelter output is well taken care of, and allows no further accumulation of the red metal. It is estimated that the year will close with about 90,000,000 pounds of copper in the hands of producers and it is apparent that a further improvement in the copper situation has to come through the development of a heavier foreign demand than noted at present. This hinges closely upon the establishment of sufficient European credits, and the passing of the Edge bill, as well as the ratification of the peace treaty will eventually obtain the desired result.

Prices for copper sheet in the Chicago market are quoted at 34½ cents per pound.

### TIN.

The past week has seen a sharp advance in tin, all grades being quoted 2c a pound higher at the close. The advance was a reflection of the sharp rise in London and Singapore, where the ton was quoted £13 higher at the close on Friday. Buying in the domestic market was held in check by the sharp upturn in London, which was attributed partly to speculative opera-

tions and partly to a decrease in the world's visible supply of tin. There are apparently sufficient supplies held here to meet the requirements of the nearby months, but sellers under the uncertain trend of sterling exchange are not willing to make new commitments for future imports, and are more inclined to husband their supplies.

#### LEAD.

Another advance in price, amounting to \$2 per ton, has been made by the leading interest. Some of the small producers, who have lead to sell, display no backwardness in asking considerably higher than the quotation of the big interest, and apparently they are getting what they are asking.

There continues to be an active demand from consumers for early delivery, and offerings are very sparing. Nothing seems to be obtainable at the "official" prices either for East St. Louis or New York, and while the rather fancy premiums asked by some outside holders have in some instances been shaded, buyers' needs for the time being seem so imperative that at present it is distinctly a sellers' market.

#### SOLDER.

The quotations ruling the Chicago market for solder are as follows: Warranted, 50-50, per pound, 34.12 cents; Commercial, 45-55, per pound, 31.60 cents; Plumbers' per pound, 29.25 cents.

#### ZINC.

The zinc market continues dull but steady. For about a week export business has been entirely checked by the continued instability of sterling exchange. With the cessation of foreign buying and the slackness of domestic demand, the firm tone of the home market is an evidence of the strength of the general situation. It confirms the view that the active export buying of the past two months has placed the producers in a comfortable position, so that they do not need to press for further business, and the buying was very well distributed among them. The advance in ore also renders the present level less attractive. There is a growing feeling that with the turn of the year we are bound to see a strong recovery of domestic demand.

#### TIN PLATES.

While a number of tin plate mills, recently shut down because of the fuel scarcity, are making plans to resume at an early date now that the coal strike is over, doubt is expressed that the fuel situation will be normal until after the first of the year. An acute shortage of early tonnages still exists and makers still are besieged with inquiries, few of which they are able to do anything with. Demand for black plate is extremely urgent as the margin between it and fully finished tin plate is so great that few makers now are inclined to sell much black plate, preferring to take advantage of the extra profit there is in the fully finished material. Buyers are offering considerably more than Pittsburgh base for standard tin plate.

In Chicago market, first quality bright tin plates,

IC, 14x20, are quoted at \$13.60 per box of 112 sheets and other gages and sizes at corresponding figures.

#### SHEETS.

From New York City comes the report that a leading warehouse interest has increased its prices on sheets 25 cents. The market on No. 10 blue annealed in Chicago is now holding at \$5.27 and other gages in proportion; No. 28 black \$6.52 and No. 28 galvanized, \$8.02. Demand for sheets especially has been so great that some concerns have completely exhausted their stocks of certain lines. Some of the smaller warehouses in Boston have made price increase above the schedule adopted by the larger interests.

#### OLD METALS.

Since the settlement of the coal strike the iron and steel scrap market has become very active, and prices are higher by \$1 to \$2 a ton. Holders of scrap were looking for an advance, an actual indisposition on the part of consumers to buy being needed simply to put the higher values into effect. During the last stages of the coal strike consumers would buy nothing, and in many cases they even required that shipments be suspended, as they were uncertain of being able to unload. Shipping of scrap is still restricted somewhat, but no serious inconvenience is now expected.

Wholesale quotations in the Chicago district which may be considered nominal are as follows: Old steel axles, \$30.00 to \$31.00; old iron axles, \$32.50 to \$33.50; steel springs, \$21.50 to \$22.50; No. 1 wrought iron, \$22.50 to \$23.50; No. 1 cast, \$29.50 to \$30.50, all net tons. Prices for non-ferrous metals are as follows, per pound: Light copper, 13½ cents; light brass, 8½ cents; lead 4¾ cents; zinc, 4¾ cents; cast aluminum, 24½ cents.

#### PIG IRON.

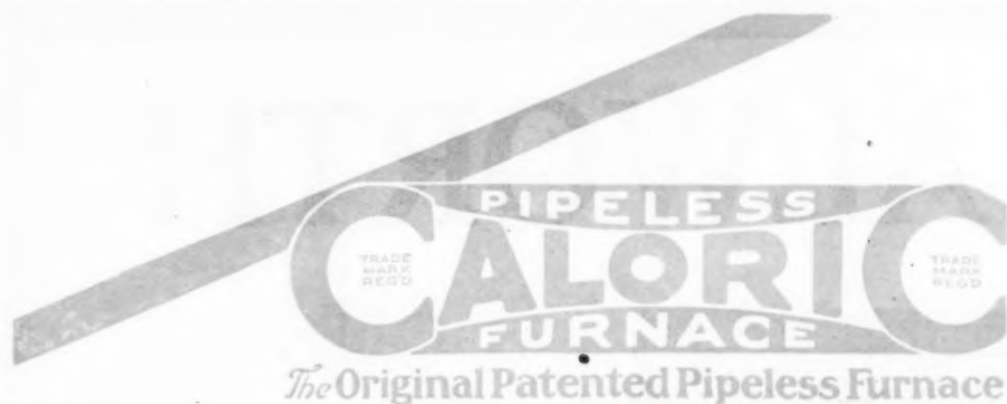
The coal situation is watched with great interest in the pig iron market and the removal of restrictions on production of coke has given rise to hope that blast furnaces will soon be able to resume operations. Increase in production is at present the main problem in the steel and iron industry, as hardly enough iron is produced to meet the domestic demand, not to mention the numerous inquiries from foreign countries, which can not get any consideration by makers. Scarcity of foundry iron as well as basic and Bessemer will hardly be relieved during the balance of the year, as coke will only gradually work up to the requirements of the furnaces.

A weighted average of prices of important grades of pig iron in the various districts shows that there has been a total advance of about \$11 a ton from early last June, when there had been a slight dip, up to the present time, and prices are now between \$2 and \$3 a ton higher than the highest maximum prices allowed during the war control even though those prices averaged more than a dollar a ton over the first Government prices. Some of the merchant furnaces nevertheless are predicting further advances early in the new year. It seems to be generally assumed that the market will be relatively quiet during the next fortnight on account of the holidays.

# Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS.		LEAD.		Broad.		BEATERS.	
PIG IRON.		Sheet.		Plumbs, West, Pat.....List		Carpet.	
Basic.....	\$25 50	Full coils.....per 100 lbs. \$10 35		" Can. Pat.....\$69 00		No. 7 Tinned Spring Wire... \$1 10	
Northern Fdy., No. 2...	26 75	Cut coils.....per 100 lbs. 10 35		Firemen's (handled),		No. 8 Spring Wire coppered... 1 50	
Southern Fdy., No. 2...	30 00	TIN.		.....per doz. 21 00		No. 9 Preston..... 1 75	
Lake Sup. Charcoal...	31 45	Pig tin..... 60c		Single Bitted (without handles).		Egg.	
Malleable.....	27 25	Barttin..... 62c		Warren Silver Steel.. on application.		No. 50 Imp. Dover..... \$ 1 10	
FIRST QUALITY BRIGHT		HARDWARE.		Warren Blue Finished.. "		No. 102 " " tinned... 1 35	
TIN PLATES.		ADVES.		Matchless Red Pole.....\$11 50		No. 150 " " hotel... 2 10	
IC 14x20..... 112 sheets	Per box \$13 60	Carpenters'.		Double Bitted (without handles).		No. 10 Heavy hotel tinned.. 2 10	
IX 14x20.....	15 10	Plumbs..... Net		Warren's Natl. Blue, 3 1/2 to 4 1/2		No. 13 " " " " 3 30	
IXX 14x20.....	16 70	Coopers'.		lb..... Prices on application		No. 15 " " " " 3 60	
IXXX 14x20.....	17 60	Barton's..... Net		The above prices on axes of 3 to 4 lbs.		No. 18 " " " " 4 50	
IXXXX 14x20.....	18 75	White's..... Net		are the base prices.		Hand.	
IC 20x28.....	27 20	Railroad.		BAGS, PAPER NAIL.		8 9 10 12	
IX 20x28.....	30 20	Plumbs..... Net		Pounds..... 10 16 20 25		Per doz. \$11 50 13 00 14 75 18 00	
IXX 20x28.....	33 40	AMMUNITION.		Per 1,000.... \$5 00 6 50 7 50 9 00		Moulders'.	
IXXX 20x28.....	35 20	Peters Cartridges.		BALANCES, SPRING.		12-inch..... Per doz. 20 00	
IXXXX 20x28.....	37 50	Semi-Smokeless..... Less 10-7 1/2%		Pelouze..... 20%		BELLS.	
COKE PLATES.		Smokeless..... Less 10-7 1/2%		BARS, CROW.		3-inch Nickeled Rotary Bell,	
Cokes, 180 lbs..... 20x28	\$16 84	Shells, Loaded, Peters.		Pinch or Wedge Point, per cwt.... \$8 50		Bronzed base..... per doz. \$5 50	
Cokes, 200 lbs..... 20x28	17 04	Loaded with Black Powder. Less 15%		BASKETS.		Cow.	
Cokes, 214 lbs..... IC 20x28	17 38	Loaded with Smokeless Powder,		Small Willow..... per doz. 15 00		Kentucky..... 30%	
Cokes, 270 lbs..... IX 20x28	20 05	medium grades..... Less 15%		Medium Willow..... " 17 00		Door.	
BLUE ANNEALED SHEETS.		Loaded with Smokeless Powder,		Large Willow..... " 20 00		New Departure Automatic.... \$ 7 50	
No. 10..... per 100 lbs. \$5 27		high grade..... Less 15%		GALVANIZED STEEL.		Rotary.	
No. 12..... per 100 lbs. 5 32		Winchester.		No. 16..... per 100 lbs. 6 72		3-in. Old Copper Bell..... 6 00	
No. 14..... per 100 lbs. 5 37		Smokeless Repeater Grade. Less 15%		No. 22-24..... per 100 lbs. 6 37		3-in. Old Copper Bell, fancy. 8 00	
No. 16..... per 100 lbs. 5 45		Smokeless Leader Grade..... Less 15%		No. 26..... per 100 lbs. 6 42		3-in. Nickeled Steel Bell.... 6 00	
ONE PASS COLD ROLLED BLACK.		Black Powder..... Less 15%		No. 27..... per 100 lbs. 6 47		3 1/2-in. Nickeled Steel Bell... 6 50	
No. 18-20..... per 100 lbs. \$6 12		U. M. C.		No. 28..... per 100 lbs. 6 52		Hand.	
No. 22-24..... per 100 lbs. 6 37		Nitro Club..... 10&5%		No. 29..... per 100 lbs. 6 72		Hand Bells, polished..... 15%	
GALVANIZED.		Arrow..... 10&5%		No. 18-20..... per 100 lbs. \$7 27		White Metal..... 15%	
No. 16..... per 100 lbs. \$7 27		New Club..... 10&5%		No. 22-24..... per 100 lbs. 7 42-4		Nickel Plated..... 10%	
No. 18-20..... per 100 lbs. 7 42-4		Gun Wads—per 1000.		No. 26..... per 100 lbs. 7 72		Swiss..... 15%	
No. 22-24..... per 100 lbs. 7 57		Winchester 7-8 gauge..... 10&7 1/2%		No. 27..... per 100 lbs. 7 87		Silver Chime..... 10%	
No. 26..... per 100 lbs. 7 72		" 9-10 gauge..... 10&7 1/2%		No. 28..... per 100 lbs. 8 02		Miscellaneous.	
No. 27..... per 100 lbs. 7 87		" 11-28 gauge..... 10&7 1/2%		No. 30..... per 100 lbs. 8 52		Church and School, steel alloys... 30%	
WELLSVILLE POLISHED STEEL.		Powder.		No. 18-20..... per 100 lbs. \$7 10		Farm, lbs. 40 50 75 100	
No. 18-20..... per 100 lbs. \$7 10		DuPont's Sporting, kegs..... \$11 25		No. 22-24..... per 100 lbs. 7 20		Each..... \$3 00 3 75 5 50 7 25	
No. 22-24..... per 100 lbs. 7 20		" 1/2 kegs..... 3 10		No. 26..... per 100 lbs. 7 30		BEVELS, TEE	
No. 26..... per 100 lbs. 7 30		DuPont's Canisters, 1-lb..... 56		No. 27..... per 100 lbs. 7 40		Stanley's rosewood handle, new	
No. 27..... per 100 lbs. 7 40		" Smokeless, drums..... 43 50		No. 28..... per 100 lbs. 7 50		list..... Nets	
KEYSTONE HAMMERED		" kegs..... 22 00		No. 18-20..... per 100 lbs. \$9 85		Stanley's iron handle..... Nets	
POLISHED STEEL.		" 1/2-kegs..... 5 75		No. 22-24..... per 100 lbs. 9 35		BINDING CLOTH.	
28-26..... per 100 lbs. \$9 85		" canisters..... 1 00		No. 26..... per 100 lbs. 7 30		Zincd..... 55%	
25-22..... per 100 lbs. 9 35		L. & R. Orange, Extra Sporting		No. 27..... per 100 lbs. 7 40		Brass..... 40%	
BAR SOLDER.		kegs..... 11 25		No. 28..... per 100 lbs. 7 50		Brass, plated..... 60%	
Warranted, 50-50..... per lb. 34.12c		L. & R. Orange, Extra Sporting		No. 18-20..... per 100 lbs. \$7 10		BITS.	
Commercial, 45-55..... " 31.60c		1/2-kegs..... 5 90		No. 22-24..... per 100 lbs. 7 20		Auger.	
Plumbers'..... " 29.25c		L. & R. Orange, Extra Sporting		No. 26..... per 100 lbs. 7 30		Jennings Pattern..... 20%	
ZINC.		1/2-kegs..... 3 10		No. 27..... per 100 lbs. 7 40		Ford Car..... List plus 5%	
In slabs..... 9c		L. & R. Orange, Extra Sporting		No. 28..... per 100 lbs. 7 50		Ford's Ship..... 35%	
SHEET ZINC.		1-lb. canisters..... 56		No. 18-20..... per 100 lbs. \$9 85		Irwin..... 15%	
Cask lots..... 14 1/2c		L. & R. Orange, Extra Sporting		No. 22-24..... per 100 lbs. 9 35		Russell Jennings..... 33 1/2%	
Less than cask lots..... 15c		1/2 lb. canisters..... 32		No. 26..... per 100 lbs. 7 30		Clark's Expansive..... 33 1/2%	
COPPER.		L. & R. Orange, Extra Sporting		No. 27..... per 100 lbs. 7 40		Steer's " Small list, \$22 00..... 5%	
Copper Sheet, base..... 34 1/2c		1-lb. canisters..... 22		No. 28..... per 100 lbs. 7 50		" " Large " \$26 00..... 5%	
ANVILS.		Hercules "E. C." and "Infallible"		No. 18-20..... per 100 lbs. \$7 10		Irwin Car..... 35%	
Trenton, 70 to 80 lbs..... 9 1/2c per lb.		50 can drums..... 43 50		No. 22-24..... per 100 lbs. 7 20		Ford's Ship Auger pattern	
Trenton, 81 to 150 lbs..... 9 1/2c per lb.		Hercules "E. C." kegs..... 11 25		No. 26..... per 100 lbs. 7 30		Car..... List plus 5%	
ASBESTOS.		Hercules "E. C." 1/2-kegs..... 11 25		No. 27..... per 100 lbs. 7 40		Center..... 10%	
Board and Paper, up to 1/16" 17c per lb.		Hercules "Infallible," 25 can		No. 28..... per 100 lbs. 7 50		Countersink.	
Thicker..... 18c per lb.		drums..... 22 00		No. 18 Wheeler's.... per doz. \$2 25		No. 20 " " " " 3 00	
AXES.		Hercules "Infallible," 10 can		No. 22-24..... per 100 lbs. 7 20		American Snailhead.. " 1 75	
Boys' Handled.		drums..... 9 00		No. 26..... per 100 lbs. 7 30		" Rose " " 2 00	
Niagara..... 12 50		Hercules "E. C." 1/2-kegs..... 5 75		No. 27..... per 100 lbs. 7 40		" Flat..... " 1 40	
AXES.		Hercules "E. C." and "Infallible"		No. 28..... per 100 lbs. 7 50		Mahew's Flat..... " 1 60	
No. 1S, socket hand'id. per doz. 2 50		canisters..... 1 00		No. 18-20..... per 100 lbs. \$9 85		Snail..... " 1 90	
No. 344 Goodell-Pratt.		Hercules W. A. .30 Cal. Rifle,		No. 22-24..... per 100 lbs. 9 35		Dowel.	
List, less..... 35-40%		canisters..... 1 25		No. 26..... per 100 lbs. 7 30		Russell Jennings..... 15%	
No. 7 Stanley..... 2 25		Hercules Lightning Rifle,		No. 27..... per 100 lbs. 7 40		Gimlet.	
AXES.		canisters..... 1 25		No. 28..... per 100 lbs. 7 50		Standard Double Cut.	
No. 1 Common..... 40		Hercules Sharpshooter Rifle,		No. 18-20..... per 100 lbs. \$7 10		Dox. \$1 10—\$1 60	
No. 26 Stanley..... 75		canisters..... 1 25		No. 22-24..... per 100 lbs. 7 20		Countersink..... Dox. 1 80	
AXES.		Hercules Unique Rifle, canisters		No. 26..... per 100 lbs. 7 30		Reamer.	
No. 1 Common..... 40		1 50		No. 27..... per 100 lbs. 7 40		Standard Square..... Dox. 2 50	
No. 26 Stanley..... 75		Hercules Bullseye Revolver,		No. 28..... per 100 lbs. 7 50		American Octagon... " 2 50	
AXES.		canisters..... 1 00		No. 18-20..... per 100 lbs. \$7 10		Screw Driver.	
No. 1 Common..... 40		ANVILS.		No. 22-24..... per 100 lbs. 7 20		No. 1 Common..... 40	
No. 26 Stanley..... 75		Trenton, 70 to 80 lbs..... 9 1/2c per lb.		No. 26..... per 100 lbs. 7 30		No. 26 Stanley..... 75	
AXES.		Trenton, 81 to 150 lbs..... 9 1/2c per lb.		No. 27..... per 100 lbs. 7 40			
No. 1 Common..... 40		ASBESTOS.		No. 28..... per 100 lbs. 7 50			
No. 26 Stanley..... 75		Board and Paper, up to 1/16" 17c per lb.					
AXES.		Thicker..... 18c per lb.					
No. 1 Common..... 40							
No. 26 Stanley..... 75							



# Quantity Production Lowers Prices

The big news of 1920—CaloriC makes heavy price reduction in the face of the highest labor and material costs in history.

Increased factory capacity and concentration on one product to meet the avalanche of CaloriC demand—these are the outstanding facts back of this new CaloriC achievement.

To the Caloric Dealer this means PRICE LEADERSHIP added to QUALITY LEADERSHIP. It means selling argument competition cannot meet. It means opportunity UNLIMITED.

The 1920 CaloriC is the nearest perfect heating plant produced—perfected in important details and improved in quality wherever improvement has been found possible.

The CaloriC is an unequalled success in over 76,000 buildings from Alaska to Florida and from Maine to California. CaloriC advertising always surpassing in previous years the combined advertising of competitors, will in 1920 far outstrip anything we have ever before attempted.

CaloriC price leadership is a new call of opportunity. One of the fine territories still open may be in your locality. Details of the CaloriC proposition on request. Write for them NOW.

Monitor Shipping  
and Selling Service  
is Nation Wide

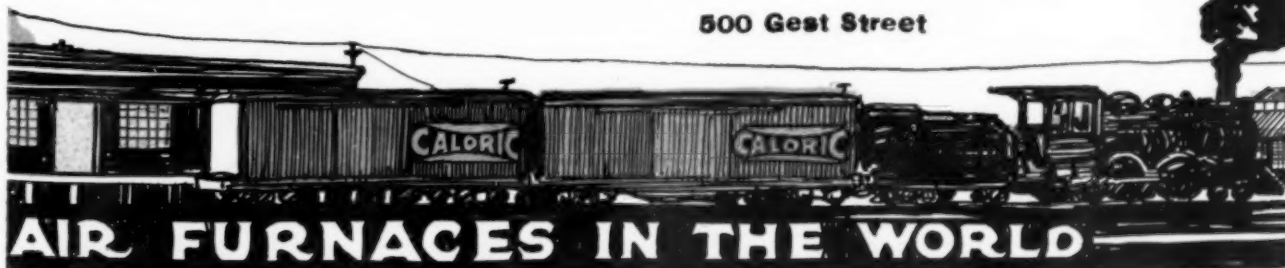
**The Monitor Stove Company**

(The Monitor Family)

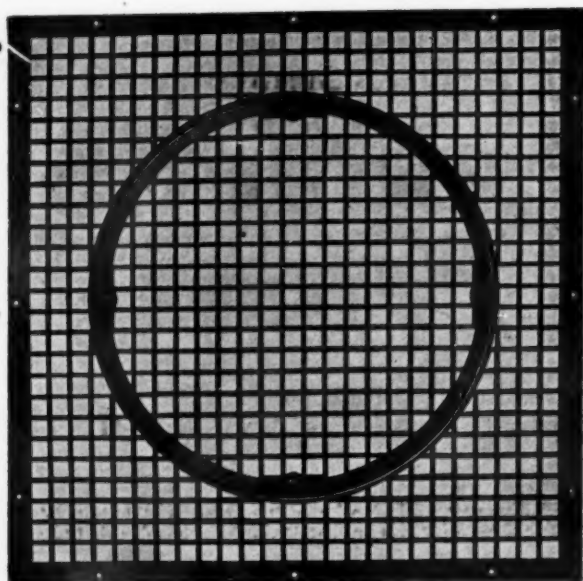
101 Years in Business

Cincinnati, Ohio

500 Gest Street



# WALWORTH



DOUBLE  
GRATING

*for*

PIPELESS  
FURNACES

**PLAIN LATTICE DESIGN, STRONG & DURABLE**

*The Kind That Will Please Your Customers*

Hundreds of dealers throughout the country are making their installations of Pipeless Furnaces **COMPLETE** by using **WALWORTH DOUBLE GRATINGS**.

They have square cold air return, round center for warm air supply.

They are made in seven standard sizes from 22x24 to 45x45.

We carry a complete stock at all times and are able to fill orders for any quantity promptly.

Let us tell you right now why **WALWORTH DOUBLE GRATINGS** are the best for you to use on your Pipeless Furnace installations.

*Write Us Today for Catalog and Discount Sheet*

**WALWORTH RUN FOUNDRY CO.**

W. 27th St. and N. Y. C. & St. L. R. R.

**Cleveland**  
Steel City

# NIAGARA

## WARM AIR HEATERS



**EXTRA HEAVY  
AND  
DURABLE**

**ALL CAST RADIATOR,  
FULL CAST  
FRONT**

**TWO-PIECE DEEP  
CUP JOINTED  
FIRE POT**

**LARGE RADIATING  
SURFACE, DOUBLE  
FEED DOORS**

### QUALITY HEATERS FOR HIGH CLASS TRADE

**O**UR many years of high class manufacturing experience is your guarantee that the **NIAGARA WARM AIR HEATERS** are in every way high class warm air heaters. Many thousands of satisfied customers confirm this fact.

The **NIAGARA WARM AIR HEATERS** have many important and different features. We want you to know all about them. They are built low to give good elevation to warm air pipes. They are equipped with Triangular Grates and have deep ash pits. The **NIAGARA WARM AIR HEATERS** are High Grade, Attractive and Powerful.

Let us tell you more about these popular heaters.

*Write today for full particulars*

## FOREST CITY FOUNDRY & MFG. CO.

*Cleveland*  
Forest City

*Cleveland*  
Forest City

1920

# New Year

## *To All*

**A** GAIN we face the starting of a New Year. It holds in store for all of us many things which we can obtain if we but use our full powers of observation. There will perhaps be many problems for each and every one of us to solve, yet those problems of life which affect the happiness, health and welfare of the public have never been too large for the American spirit of progressiveness to overcome.

**I**T is our earnest wish that you may possess the vision to see the numerous opportunities which the New Year will bring and the strength and courage to grasp them.

**W**E TRUST that all our friends in the trade will enjoy a most **Happy New Year's Day.**

## THE HENRY-MILLER

Cleveland  
Sixth City

1920

1920

# Greetings *the Trade*

THE year 1919 has been an exceptionally successful and prosperous one for us and we are aware of the fact that it was largely through your kind co-operation and efforts that this was made possible.

WE are very thankful for the favors tendered us and sincerely hope that every **MONCRIEF** dealer has had a record breaking year in sales and profits.

MAY the New Year find you ready to make 1920 a bigger and better year from all standpoints. May each day find new progress made toward the goal of your ambition. We sincerely value your friendship and trust that our pleasant business relations may continue in the future.



## FOUNDRY COMPANY

Cleveland  
Sixth City

1920

**We Wish You  
A New Year  
Replete With Happiness**

.....

**1920**

***WE** EXTEND to you our sincere hope for a prosperous **New Year** for you and yours. May the coming year be one which shall always linger in your memory as abounding in joy and happiness.*

***A**CCCEPT our good wishes for the past pleasant business relations which marked our dealings. We hope for the continuance of your good will and patronage. We take this opportunity to state our appreciation for the business which has been accorded us the past year and express the hope that the coming year may be an unprecedented one in prosperity.*

**WROUGHT IRON RANGE COMPANY**

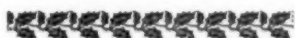
**5661 NATURAL BRIDGE AVENUE**

**ST. LOUIS, MISSOURI**



## A Happy 1920 New Year

**I**N wishing you a **HAPPY NEW YEAR** we have in mind a year overflowing with merriment and prosperity. May the joys of contentment and good deeds be yours. We greet the trade on the threshold of the greatest year of possibilities with kind wishes and thanks for past cordialities.



**W**E hope that all your plans for the year 1920—business and personal—will materialize. We express the hope that in the year to come your customers will be satisfied more than ever with your work and dealings. And we proffer the advice—buy **WISELY**.

# WISE FURNACE CO.

AKRON, OHIO

# New Year Felicitations 1920

**M**AY this New Year be a Big Year for you. Big in Business, Big in Happiness, big in all things that are good and true. We sincerely wish the trade a very Happy New Year and trust that it will be full of joyousness for you and yours.

**W**E are thankful for the staunch support of our friends and hope that we will continue to merit such support in the future.

**DANVILLE STOVE & MFG. CO.**  
**DANVILLE, PENNSYLVANIA**

CHICAGO, ILL.  
W. D. Sager, 330-340 North Water Street

PITTSBURGH, PA.  
R. E. Edmunds, 104 Wood Street

# MAHONING HEATERS

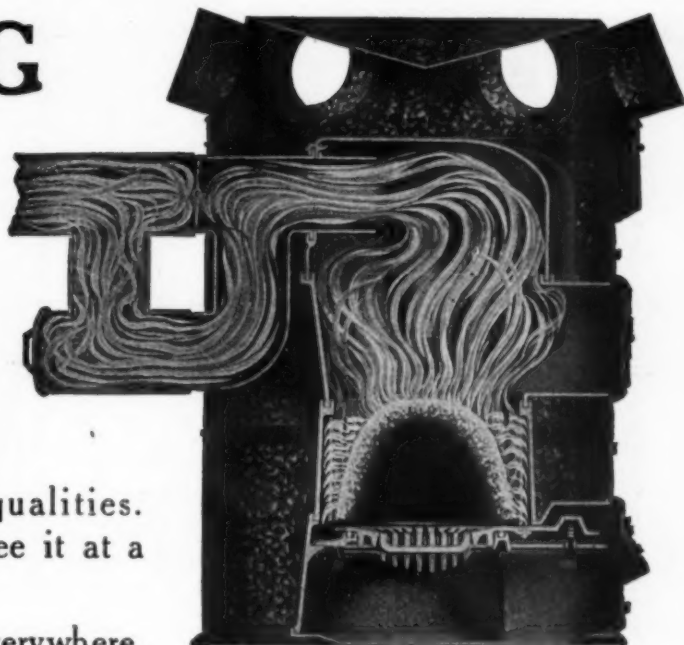
Sell Themselves

So many superior qualities are involved in **MAHONING** construction that to tell of one would slight others equally as important.

No need to *talk* Mahoning qualities. *Show* your customer,—he will see it at a glance.

We want good live dealers everywhere, and offer a tempting proposition.

*A style and size for every purpose.*



MAHONING TYPE "C"

Illustration shows quite clearly the combustion as it takes place in the Mahoning system. Note how the admission of air through the slots in the firepot causes combustion to take place all around the outside of the fire. The hottest part of the flame is in direct contact with the outside surface of the heater where the radiation of heat takes place. Only one of the features that have made the Mahoning famous from coast to coast.

## The MAHONING FOUNDRY CO.

YOUNGSTOWN, OHIO

*A Mammoth Plant With a Mammoth Production*



### "FIRST AID SERVICE"

THERE'S no question about it—Old Man Winter will prove he's here before this month is over.

Most people are, perhaps, prepared, but there are always a few like the old cow's tail—behind. Or maybe some have put off their building operations until the last moment, and are now after you to get in their heating plant "right away."

It is demands like these that call for "first aid" service. They brook no delay. Their demands try your patience, but their business means profits—and that's what makes the mare go. So it is good business to give these customers the service they ask.

To give such service you must have the supplies and materials—not the easiest thing in the world to get these days.

In such emergencies, it is good to have a good source of supply. It is good to have a house like the "STANDARD," to whom you can turn with every assurance that you will get what you want—when you want it.

We don't promise the impossible, but we do say that our stock is so varied and so big, our location is so central, and our shipping facilities so good, that you stand a ten to one chance of getting what you want when you come to us.

We have everything in furnace supplies. The quality of our stock may be judged by such items as our leaders:

NESBIT ALL-CAST HEATERS.

WEIR ALL-STEEL HEATERS.

PEERLESS GRAVITY HEATERS.

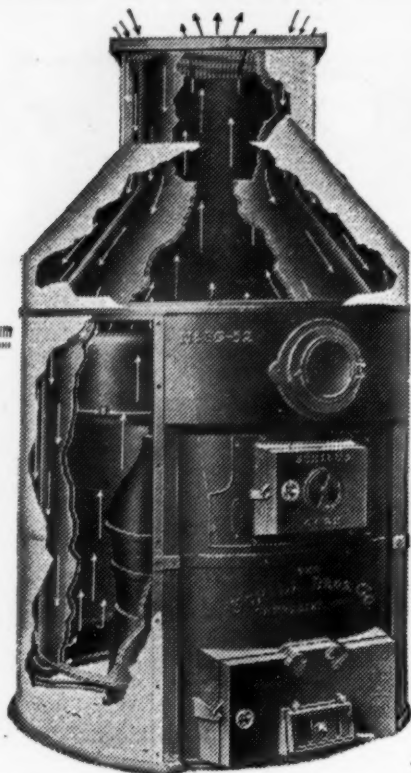
"HANDY" PIPE FITTINGS.

Send us the S. O. S. "ROCK ISLAND" and "WALWORTH" REGISTERS.

## STANDARD FURNACE & SUPPLY CO.

407-409-411-413 South 10th Street

OMAHA, NEBRASKA



*Highest  
Quality*

*Sure to  
Please*

*A  
Profit  
Maker  
For  
You*

## SCHILL'S PIPELESS Warm Air Heater

This season the popularity of Pipeless heaters will be greater than ever before. Be prepared to meet this popularity in your territory. Handle **SCHILL'S PIPELESS Warm Air Heater**. **SCHILL'S PIPELESS Warm Air Heater** is "cup jointed" throughout, making it as near gas tight as possible. The outer casing is made of galvanized iron and the inner casing of black iron with one inch air space. This makes a perfect insulation.

*The DEMAND  
will be great*

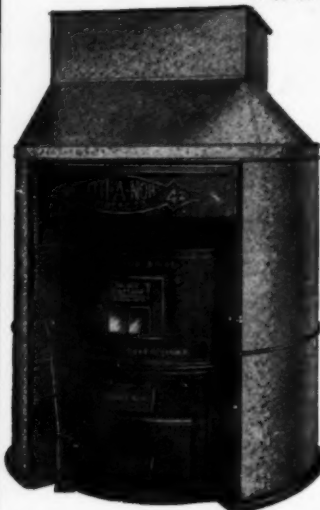
Note from the illustration the construction. The best workmanship possible is embodied in **SCHILL'S PIPELESS Warm Air Heater**. We guarantee the material in this heater to be of the highest grade.

Why not let us send you our booklets telling all about **SCHILL'S PIPELESS Warm Air Heater**? You will surely want to handle a Pipeless heater this season. **SCHILL'S PIPELESS Warm Air Heater** will satisfy your customers and give you a good profit.

*Drop us a card today*

**THE  
SCHILL BROS. CO.**  
CRESTLINE, OHIO

*If You Can Qualify as a  
Dealer for the New 1920*



You will have no problem to solve in selling this furnace for 1920.

We could sell five times as many **ATH-A-NOR FURNACES** as we can possibly manufacture this year.

We would urge promptness in getting in touch with us for the 1920 agency.

The **ATH-A-NOR** Agency is an asset any live dealer would like to have.

*Write today before  
it is too late.*

**THE MAY-FIEBEGER FURNACE CO.**

*(The Athanor People)*

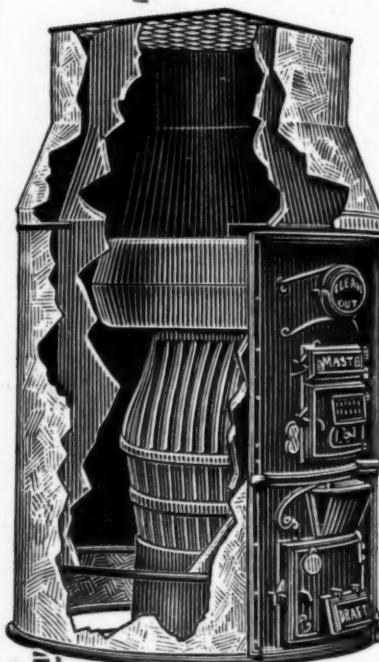
**NEWARK, OHIO**

**DISTRIBUTORS**

The Kelley-How-Thomson Company, Duluth, Minn.  
Excelsior Heating Supply Company, Kansas City, Mo.

*Investigate the merits  
of the*

## MASTER ONE-PIPE FURNACE



Let us convince you of the fact that we have overcome many of the faults found in other makes of pipeless furnaces.

First, consider the general construction.

**THE MASTER ONE-PIPE FURNACE** is VERY HEAVY, much heavier than most other one-pipe furnaces.

This is what your customers want. They want a substantial heater, one that will stand up under long and hard use.

The radiator in the **MASTER ONE-PIPE FURNACE** is made VERY HEAVY, of cast iron and is in ONE PIECE. The feed doors are LARGE and DOUBLE. Your customers will appreciate these features. They will see at once that the **MASTER ONE-PIPE FURNACE** is built to heat ECONOMICALLY and EFFICIENTLY.

*Let us tell you more  
about the MASTER  
ONE-PIPE FURNACE.*

*Write today for cata-  
log and any other in-  
formation you desire*

**Tubular Heating & Ventilating Co.**  
228 Quarry Street PHILADELPHIA, PA.

## FLORAL CITY KING FURNACES

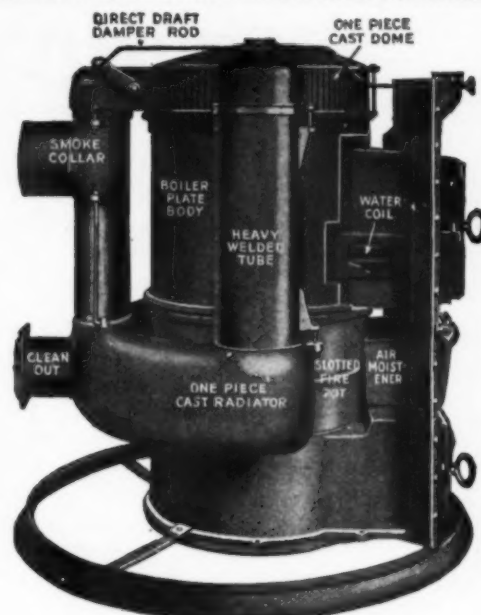
A powerful heater furnished with or without slotted fire pot. The large water evaporating pan is so placed that moist air is assured, which means greater health, and comfort.



Will burn any kind of fuel.

*Write for booklet*

**MONROE FOUNDRY & FURNACE CO.**  
MONROE, MICH.



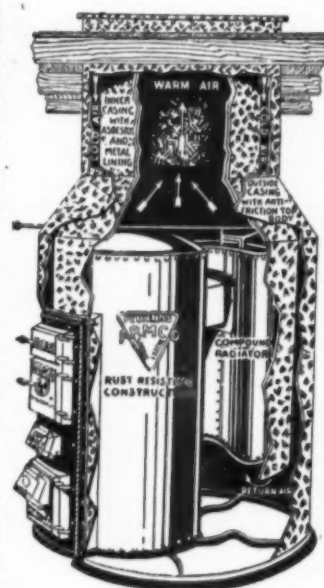
Side View

## PEERLESS PIPELESS Warm Air Heaters

THE popularity of *successful* Pipeless Warm Air Heaters is now at its height. The demand is great in all territories and the opportunities offered dealers in the way of profits are many. However, a Pipeless will not heat any and every house and a dealer who installs one on any kind of a guess will not profit much. We do not claim that the **PEERLESS PIPELESS WARM AIR HEATERS** will heat *any* house. They will, however, heat many styles of homes and we have an engineering department which will examine plans or drawings and decide whether or not a **PEERLESS PIPELESS WARM AIR HEATER** should be installed. The **PEERLESS PIPELESS** Furnaces are made of rust resisting *Genuine Armco Ingot Iron*. The bodies of every one of these heaters are riveted like a steam boiler. Throughout their entire construction the **PEERLESS PIPELESS** heaters are *sound and durable*.

*Let us tell you more. Write for circulars and details.*

**THE PEERLESS FOUNDRY CO.**  
1853-1955 Ludlow Avenue  
INDIANAPOLIS, IND., U. S. A.



# BOOMER

**Boomer Furnaces Have Been Successfully Made for 36 Years**

Boomers are known throughout the country—known to give the best of satisfaction. The reputation of the Boomer means more sales, bigger profits, and satisfied customers. Our 1918 campaign is making the Boomer agency more desirable than ever—it is a campaign of co-operation and service. Service that insures results is the kind we give our Boomer Furnace agents.

**THE HESS-SNYDER CO., Manufacturers, MASSILLON, OHIO**

Trade Mark "Boomer" Registered—No. 58228

**Put that Advertisement in AMERICAN ARTISAN if you Want Results**

# FRONT RANK

TRADE NAME REGISTERED

## Real "FITTING FITTINGS"



Write for Catalog

MANUFACTURED BY

### HAYNES-LANGENBERG MFG. CO.

4058 FOREST PARK BOULEVARD  
ST. LOUIS, U. S. A.

## NEW IDEA

*Pipeless Warm Air Heater*



"The One You've Heard  
So Much about."

And The One that Will  
Increase your sales.

We are as much interested in your  
end of the sales as we are in our  
own—they are identical to us. Do  
you know what this means to you?

It means that we are not sat-  
isfied until you are with the  
amount of sales you make on  
the NEW IDEA PIPELESS  
WARM AIR HEATER.

If we get inquiries con-  
cerning the NEW IDEA  
PIPELESS WARM AIR  
HEATER from prospec-  
tive buyers in the  
district in which  
you are our agent,  
we give them to  
you.

Get your  
share of this  
business.

Features of the  
New Idea  
Pipeless  
Furnace

One-piece radi-  
ator—Cap Joint  
Construction.  
One piece Com-  
bustion Dome.  
Entire Elimina-  
tion of Feed Door  
Frame. Two-  
piece Fire Pot—  
Corrugated.

Notched Slot outside casing, smoke curtain, casing strip behind Furnace  
front in conjunction with Notched Slot Case (Patent applied for) is a labor  
saver. Eliminates old method of Bolting.

Write today for full details and catalog.

**UTICA HEATER COMPANY**

BOX 100, 218 W. KINZIE STREET  
CHICAGO, ILLINOIS  
Home Office: UTICA, NEW YORK

## XXTH CENTURY FURNACES



are still leading as money makers for  
dealers and are preferred by all con-  
sumers familiar with their superior  
excellence.

"A XXth Century agency is a com-  
mercial asset."

Write for catalog today

**THE XXth CENTURY H. & V. CO.**  
AKRON, OHIO

# NEW YEAR GREETINGS

*to the trade*

WE are prompted at this happy time to express to you our sincere wish that you and yours may enjoy

A Happy New Year Day

and a New Year that will by far exceed all previous ones.

WE are not unmindful of the fact that you have given us splendid support and co-operation in the past and we wish at this occasion to heartily thank you.

F. MEYER & BROTHER COMPANY  
PEORIA, ILLINOIS

# MICHIGAN

## NESTED HOT AIR PIPE

The rush is on. Many people who had all summer to have their warm air heaters installed or new pipe put in are just realizing that they must call on you now before it is too late. This makes it hard on you but you should not pass up any business that comes your way.

If you use MICHIGAN NESTED HOT AIR PIPE you can save much time on your warm air heater installations and pipe replacements. It will mean more profit for you too, and you can be sure that your customer will be satisfied with the job. If you are not a user of MICHIGAN NESTED HOT AIR PIPE write us today and we will tell you why hundreds of other dealers are finding it the best on the market.

Notice the safety  
lock at each end



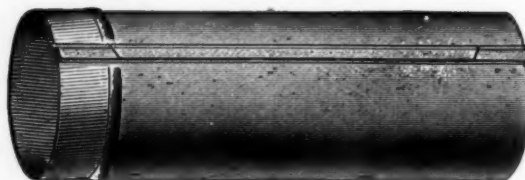
← MICHIGAN PIPE  
before being locked

It is simple to lock.  
Your hands do the  
work

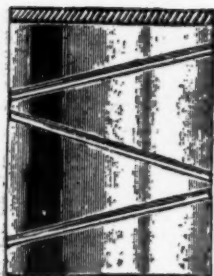


← the way to lock  
MICHIGAN PIPE

After it is once  
locked it stays locked



← MICHIGAN PIPE  
after being locked



## MICHIGAN ADJUSTABLE ELBOWS

For use with MICHIGAN NESTED HOT AIR PIPE. These elbows are made of Tin or Galvanized Iron. They can be used for angles ranging from 180° or straight to 90°. They are real time savers. Try a few on your next order.

You can store a maximum stock of MICHIGAN NESTED HOT AIR PIPE in a very small space. It comes packed in an iron cask and can be easily handled and kept in cask until used. Write for prices and other details today. Have a stock shipped to you NOW.



Write for our complete catalog today. It describes fully MICHIGAN NESTED HOT AIR PIPE, MICHIGAN ADJUSTABLE ELBOWS and MICHIGAN SAFETY FURNACE PIPE.

# MICHIGAN SAFETY FURNACE PIPE CO.

113-115 East Fort Street

Detroit, Michigan

# COLUMBIAN

Lattice Face  
Warm Air

# REGISTERS



## Order Early to Insure Delivery

**F**URNACEMEN who want to make sure of register requirements this year are placing orders now. This is no time to be jockeying for lower prices—if anything, prices will go higher. The prudent course is to place your stock order with a responsible firm as soon as you can.

Columbian Warm Air Registers offer you the best quality it is possible to produce in all standard sizes and finishes. Greatly increased manufacturing facilities and stock have put us in shape to make prompt shipment.

*Write for catalog and discounts today*

**The Columbian Hardware Co.**

Register Dept.  
Cleveland

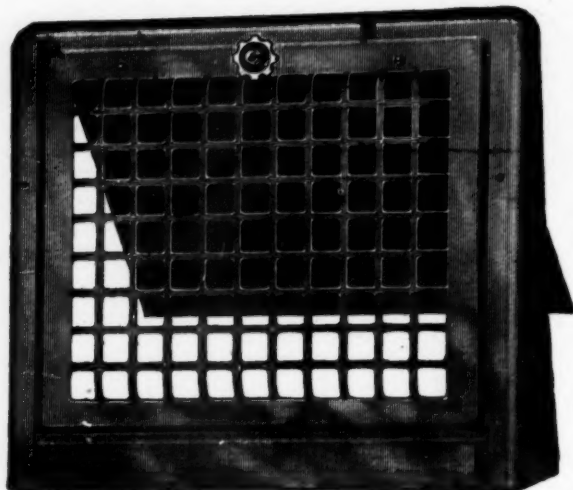
# STEARNS'

## STEEL BASE REGISTERS

**DURABLE**

**RELIABLE**

**ATTRACTIVE**



**GUARANTEED**

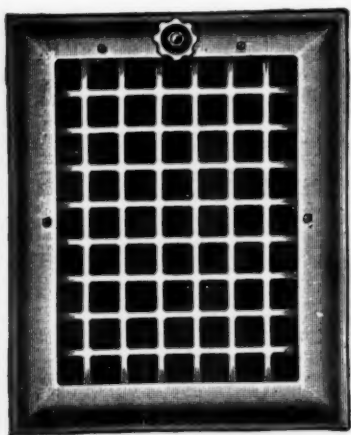
**AGAINST**

**BREAKAGE**

**T**HEIR superiority over other makes is evidenced by the vital fact that since their first inception **STEARNS' STEEL BASE REGISTERS** have enjoyed an ever increasing volume of sales. Repeat orders from thousands of dealers everywhere prove that **STEARNS' STEEL BASE REGISTERS** meet with complete satisfaction, from everyone concerned. Here are a few reasons why. They represent the latest and best in warm air register construction. Operation is perfect due to our own device (patent applied for) which will not get out of order. They give the full capacity, both in face and box, for the size pipe intended. Five sizes, from 8x10 to 11x13 in black or white japan or electroplated finishes are to be had at all times.

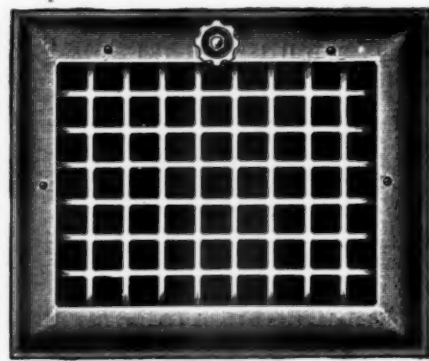
*Send a trial order or at least write for our catalog today.*

## STEARNS' CONVEX REGISTERS



Steel Wall Register—Vertical

*The Kind That Your Customers will be pleased with.*  
**STEARNS' CONVEX STEEL WALL REGISTERS** are made with the same careful judgment of values and with the same high grade materials as our steel base registers. They are neat in design and they also can be had in black or white japan or electroplated finishes in sizes from 8x10 to 9x12. Right now when the building boom is on you should have a stock of **STEARNS' STEEL BASE AND CONVEX STEEL WALL REGISTERS** on hand. Let us tell you more about them.



Steel Wall Register—Horizontal

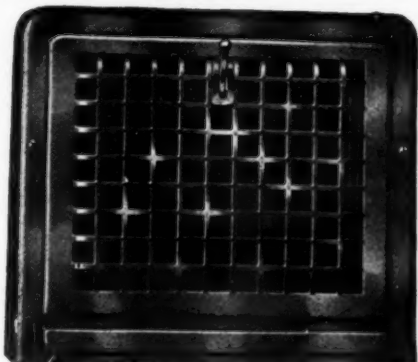
*Write now—TODAY—for catalog and full information.*

## STEARNS' REGISTER COMPANY

111 Fort Street

DETROIT, MICHIGAN

## STEEL Base Board Registers



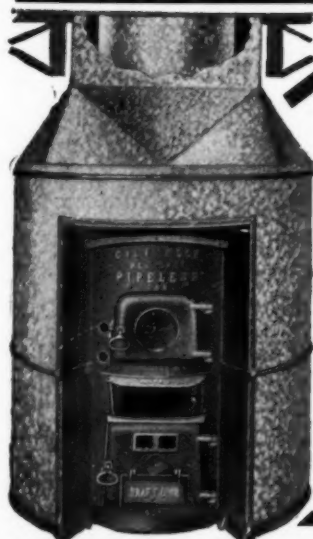
The LATTICE

We also make Borders, Steel Floor Registers, Cold Air Faces and various styles of steel grilles, all of which will be illustrated in our new catalogue, "The Register Book No. 20," which will be ready for distribution in January.

Write for your copy

**THE AUER REGISTER CO., Mfrs.**

*Cleveland*  
Sixth City



## GILT EDGE

### Pipeless Furnace

Will do all any  
Pipeless Furnace  
will do — and  
then some.

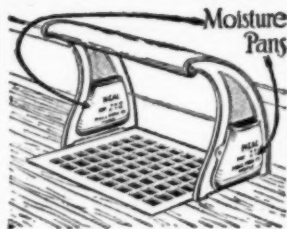
Get this agency

**R. J. Schwab & Sons Co.**

283 Clinton St., Milwaukee, Wis.

## NEAL'S REGISTER SHIELDS

PATENTED



Every warm air heater owner is a good live prospect for you. All you have to do is show the NEAL REGISTER SHIELD. Its many points of merit are seen at a glance. It protects the walls and has a pocket that catches the dust. Its shape causes the clean warm air to be distributed evenly over the room. The little water pans at each end enable your customers to regulate more evenly the humidity of the air that they breathe. NEAL'S REGISTER SHIELDS increase the efficiency of a warm air heater. They are made in two styles, one for floor register and one for side wall registers. In aluminum bronze.

They are strong, and neatly finished. You can make good profits selling NEAL'S REGISTER SHIELDS. Display a few where your customers can see them. They will sell themselves.

Write us today for prices and circulars.

**HALL-NEAL FURNACE CO.**

137-39 W. Washington Street  
INDIANAPOLIS, IND.

## "T & B" BASEBOARD STEEL—CAST IRON REGISTERS

Illustrated at the right is the "T & B" Baseboard Register Style 900 made of wrought steel.

This is a neat Plain Lattice design and one that is quite popular. It is strong and durable but also very light in weight. It is made in two pieces and can be had in many sizes. An important feature of "T & B" Baseboard Registers is this—



*The Stackhead for any Register Number of "T & B" Baseboard Registers is the SAME for any of the Styles.*

This means that you can furnish your customers any style they want without changing the stackhead. The "T & B" line of Baseboard Registers contains many neat, distinctive and even beautiful designs. They are all equipped with Air Tight fasteners which prevent the streaking of walls. "T & B" Baseboard Registers can be had in the following finishes: Black Japanned, Plated Oxidized Copper, Plated Brass, Bronze or Nickel. They are all strong and built to give perfect satisfaction. We have a new catalog which we would be pleased to send you.

Write today for complete catalog No. 66

**TUTTLE & BAILEY MFG. CO.**

CHICAGO

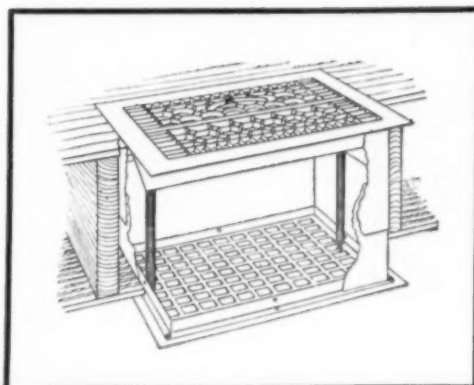
NEW YORK

BOSTON

In Canada, TUTTLE & BAILEY MFG. CO., of Canada, Ltd.,  
Bridgeburg, Ontario

## Independent Adjustable Ceiling Ventilators

For Warming Cold Upstairs  
Rooms With the Surplus  
Heat From Lower Ones



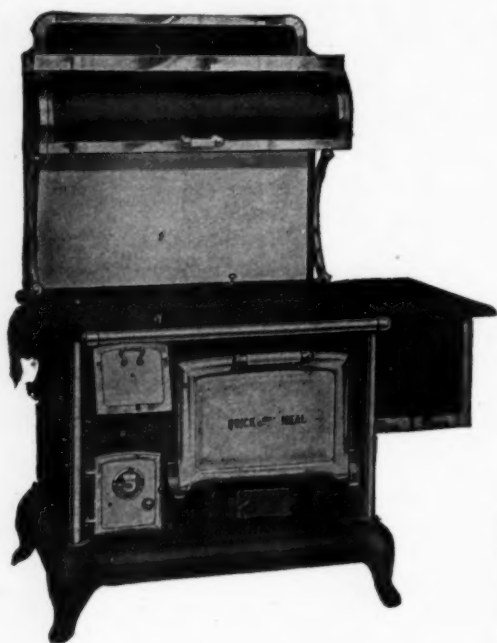
Independent Ventilators have been for many years standard stock in thousands of hardware stores. **Are they in yours?**

Our catalog tells all about Ceiling Registers and Ventilators. May we send you a copy?

**INDEPENDENT REGISTER & MFG. CO.**

707 FRANKFORT AVENUE

*Cleveland*  
Sixth City



## "QUICK MEAL"

### Fusenamel Coal Ranges

*The Material  
Used in the Construction of These Ranges  
Has Eliminated the Liability of Rust.*

*Heat or Acids Will Not Affect It.*

"QUICK MEAL" Ranges have more *Distinct Special Features* than any other range.

The Fusenamel not only *Prevents Rust* but radiates heat back through the oven, thus *Saving Fuel* and making the *Most Economical Range* made.

*Made in three colors: Black, Blue or White*

## RINGEN STOVE COMPANY

DIV. AMERICAN STOVE CO.

825 Chouteau Avenue

ST. LOUIS, MISSOURI

## SPECIALIZATION

For 15 years The Hart & Cooley Company have specialized on steel registers only—with its inevitable outcome—a superior product, unequalled for strength, durability of finish, air capacity, simplicity in construction, effectiveness of design; the leading features being protected by U. S. Patents.

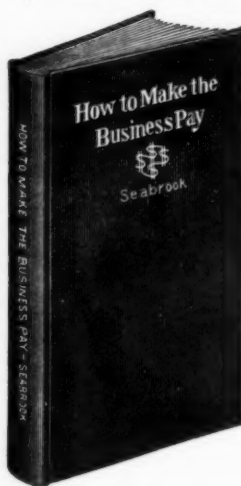
Write for our big 63 page catalog  
it gives all the details

**The Hart & Cooley Co., Inc.**

New Britain, Conn.

100 Lafayette St., New York 73 East Lake St., Chicago

## MAKE YOUR BUSINESS PAY



THE whole subject of business building and business management is herewith offered you. The book **HOW TO MAKE THE BUSINESS PAY** is a thorough treatise on the subject written by one who has been in personal contact with contractors and business men throughout the country. It is in fact a complete business guide for building trades contractors, masons, sheet metal workers and other merchant tradesmen, written in plain language, with information based on actual methods used by successful contractors.

The sections on estimating and bookkeeping are alone worth many times the price of the book. **HOW TO MAKE YOUR BUSINESS PAY** contains 175 pages freely illustrated with diagrams and forms.

Bound in cloth, size 6x9 inches. Price \$2.00. With **AMERICAN ARTISAN** one year (52 issues) \$3.35.

All Books Sent Postage Prepaid. No Books Exchanged.

**DANIEL STERN**

PUBLISHER AND BOOKSELLER

620 So. Michigan Boulevard, Chicago, Illinois

*A Profitable Seller for RIGHT NOW*  
*Durable, Economical and Efficient*

# DANGLER

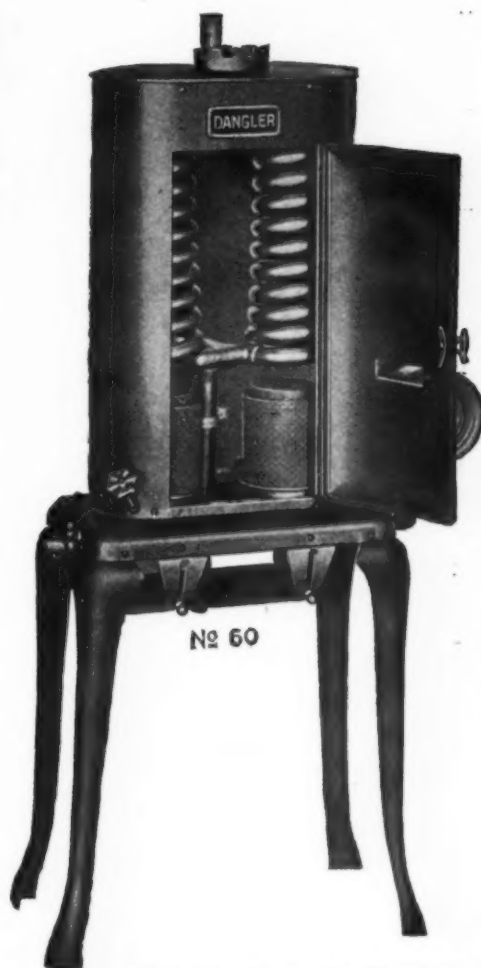
## Wickless Blue Flame Oil Burning Water Heater

**T**HE result of years of experience in the manufacture of Wickless Oil Stoves. It embodies all that is practical in modern Water Heater building. Mounted as it is on long legs, at the proper height for connection to boiler, its convenience in operation is readily apparent.

The **DANGLER Wickless Blue Flame Oil Burning Water Heater** is fitted with two powerful wickless oil burners, the same as used in **DANGLER Oil Cook Stoves** for the past twenty-five years. The double seamless copper coils, fitted with brass connections, are placed to receive the full volume of heat, thus insuring a minimum operating expense.

*One or two burners may be used  
as desired with good results.*

The **DANGLER Oil Burning Water Heater** is protected with a double casing, asbestos lined, which retains all the heat and prevents radiation. This is a feature that your customers will appreciate during the summer months. Note from the illustration the large door extending from the top to the bottom which makes the coils and burners easily accessible for cleaning and inspection. The base is surrounded with a specially built pan to provide for any possible sweating or dropping of carbon from the burners.



No. 60 WICKLESS OIL WATER HEATER  
FRONT VIEW SHOWING COILS AND BURNERS

**Place a DANGLER Wickless Oil Water Heater on your floor NOW**

Put one on display in your store and let it sell itself. Its neat appearance and sturdy construction appeal at once to all who see it. The **DANGLER Wickless Blue Flame Oil Burning Water Heater's** superiority over any heater of its kind is acknowledged wherever the **DANGLER** is sold or used. Study the **DANGLER Oil Water Heater** in detail; it is 42 inches in height from top to bottom, the legs measure 18 inches in height, the base is  $8\frac{1}{4} \times 14\frac{3}{4}$  inches, door opening is  $7 \times 16$  inches, the flue collar measures 3 inches, and the water connections  $\frac{3}{4}$  inches. The oil tank has a capacity of 5 pints. The outside frame is made of 24-gauge steel, lined with  $\frac{3}{16}$  in. asbestos, covered with 26 gauge steel. Each coil is made of  $10\frac{1}{2}$  feet of the highest grade 18 gauge  $\frac{3}{4}$  in. seamless copper tubing. Crated weight is 55 lbs.

*Write today Mr. Dealer and start selling the DANGLER Wickless Blue Flame Oil Burning Water Heater in your territory RIGHT NOW. Catalogs and circulars sent on request, send a postcard for them today*

# DANGLER STOVE COMPANY

DIV. AMERICAN STOVE CO.

## CLEVELAND, OHIO

PHILADELPHIA, PA., 131 Market St.

SAN FRANCISCO, CAL., 718 Mission St.

LOS ANGELES, CAL., 804 Higgins Bldg.



# Greetings

— 1920 —



## A Happy New Year

**M**AY the pealing of the New Year's bells mark the entrance of a prosperous year for you. It is our ardent wish that the year 1920 be a joyous one.

**W**E heartily thank you for the business you have given us the past year. We ask for your continued cordial relations. May the New Year prove to be bright and shiny.



**BLACK SILK STOVE POLISH WORKS**  
STERLING, ILLINOIS

# SAFETY Interlocking Stove and Furnace PIPES

Fire  
Preventing



Home  
Protecting

Ambrose P. McGuirk's Patent

Our Asbestos-Covered Interlocking Furnace Pipes, Interlocking Stove Pipes, Interlocking Asbestos-Covered Flue Thimble, Interlined Interlocking Ring Flue Caps and Interlocking Elbows are not luxuries nor needless accessories. They are very necessary where stoves and furnaces are used. By fastening and cementing the Flue Thimble in the Flue Hole, and putting in and turning the pipe joint and locking it firmly therein, it can't pull out or be pushed in too far. Each successive pipe link is locked to the preceding one, until the whole pipe is firmly locked together, and to the Stove Collar, so that the pipe can't fall down. When the pipe is taken down put in the Flue Cap and lock it, making the flue hole fire safe.

Every home and factory owner is morally liable for impending fires on his property, and as fast as flames reap losses will our dealers reap profits on our Fire Safe, Rust Proof, Interlocking Pipes, Flue Thimbles, Caps and Elbows.

Send for Price List and Descriptive Statement

Safety Interlocking Stove Pipe Company

Mt. Pleasant, Iowa

**W**E furnish repairs to fit all stoves, ranges, furnaces, etc. We also carry a full line of water fronts and water backs for cook-stoves and ranges.

Prompt Service at all times.

**CENTRAL STOVE & FURNACE REPAIR COMPANY**

1801 Diversey Parkway, Chicago, Illinois

WRITE FOR CATALOG

**STOVE BOLTS  
STOVE RODS  
STOVE RIVETS**

THE KIRK-LATTY MFG. CO.



**REPAIRS AND SUPPLIES  
FOR  
STOVES, FURNACES, AND BOILERS.  
OMAHA STOVE REPAIR WORKS, OMAHA, NEB.**

**PATTERNS**

FOR STOVES AND HEATERS **FIRST-CLASS  
IN WOOD AND IRON**  
VEDDER PATTERN WORKS **ESTABLISHED 1835 TROY, N. Y.**

**PATTERNS FOR STOVES  
AND HEATERS**  
THE CLEVELAND CASTINGS PATTERN COMPANY



**IRON AND WOOD  
STOVE PATTERNS**  
QUINCY PATTERN COMPANY  
QUINCY, ILLINOIS

**DOVER WOOD COLD AIR FACES**  
For Economy and Harmonious Finish  
Write for Catalog.  
DOVER WOOD FACE & LBR. CO., DOVER, OHIO

**STOVE and FURNACE  
REPAIRS**

Largest Stock in the World

QUICK SHIPMENTS

**NORTHWESTERN STOVE REPAIR CO.**  
651-466 West Roosevelt Road CHICAGO

**REPAIRS for STOVES  
FURNACES**

PATTERNS TO FIT OVER 100,000 MAKES  
**NATIONAL STOVE REPAIR CO.**  
MIAMISBURG, OHIO  
Successors to the Stove Repair Dept. of the  
J. B. MORRIS FOUNDRY CO., CINCINNATI, OHIO



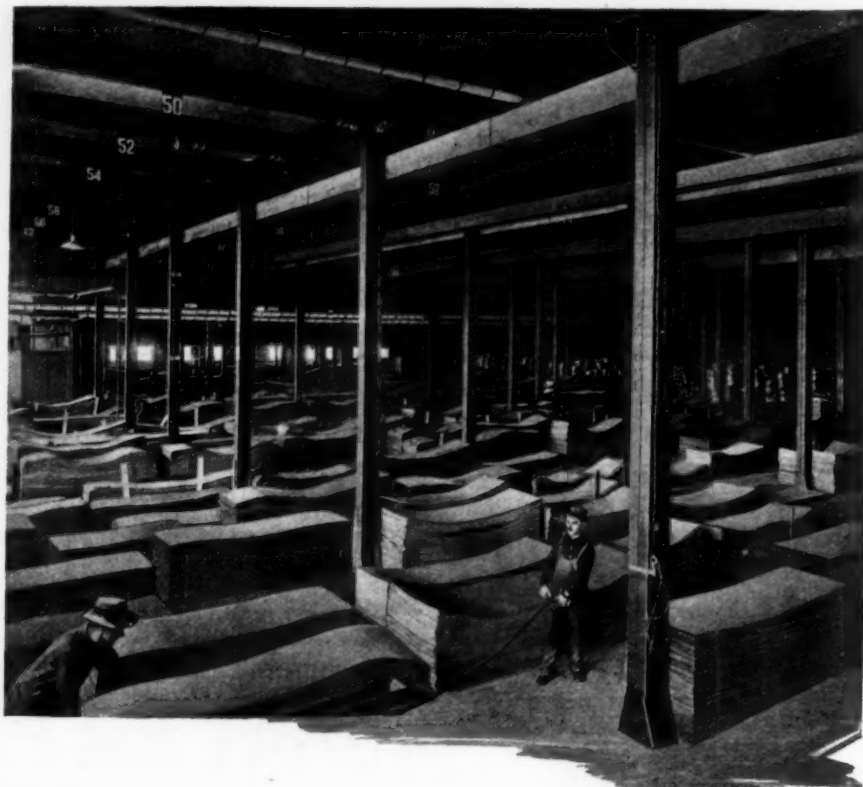
**Oval Stove Pipe Reducers**

Reduce from 7 inches to 6 inches. They are made with a 7 inch oval bottom, which fits perfectly over the oval collar of stove or range and are reduced to 6 inches round top. They are used by all up-to-date stove dealers in preference to the 7 to 6 inch stove pipe.

Made of Uniform Color and Polished Steel.

**SULLIVAN-GEIGER CO.**  
501-509 Madison Avenue, INDIANAPOLIS, IND.

**COPE-SWIFT CO., INC.**  
**STOVE PATTERNS**  
41-49 McDougall Ave. Detroit, Mich.



## Pioneers in Immediate Steel-Service

1842—1919

Back in 1842, when Chicago was little more than an outpost trading town, the first Ryerson Iron Store was established.

The little store served the tradesmen well and grew with the increased demands of our western industry.

Today Ryerson Steel-Service, furnished by the five modern plants in Chicago, New York, Buffalo, St. Louis and Detroit, sets the standard by which such service is measured.

Write for monthly stock list containing complete data on bars, shapes, plates, sheets, tubes, rivets, bolts, nuts, special products, etc.

OFFICES:  
PHILADELPHIA  
MILWAUKEE  
TOLEDO  
NEWARK  
PITTSBURGH

ESTABLISHED 1842

INCORPORATED 1888

**JOSEPH T. RYERSON & SON**

CLYDE M. CARR, PRESIDENT

JOSEPH T. RYERSON, VICE-PRES.

**IRON STEEL MACHINERY**

OFFICES:  
SAN FRANCISCO  
KANSAS CITY  
CLEVELAND  
BOSTON  
HOUSTON  
MINNEAPOLIS

PLANTS:

CHICAGO

NEW YORK

BUFFALO

ST. LOUIS

DETROIT

**BLACKING, STOVE. (See Polish)**  
**BLADES SAW.**

**Butchers'.**  
Standard, 1 & 1 1/2-in. .... Net  
Clock Spring .....  
Star. ....

**Hack.**  
Atkins ..... 5%  
Star ..... Net

**Wood.**  
Disston ..... 6 66 26  
Nos. .... \$8 00 \$8 50 \$8 00  
Atkins ..... 2 14 18  
Nos. .... \$3 85 \$6 50 \$4 75

**BLOCKS.**

**Snatch.**  
Wooden ..... Plus 10%

**Tackle.**  
Iron Strapped ..... Plus 10%

**BOARDS.**

**Stone.**  
Wabash Crystal ..... Net Prices  
Wabash Oriental .....  
Wabash Mosaic .....  
Wabash Delft Enameled .....  
Wabash Art Inlay .....

**Wash.**  
No. 760, Banner Globe, (single)  
per doz. \$5 25  
No. 652, Banner Globe, (single)  
per doz. 6 75  
No. 801, Brass King ..... 8 25  
No. 860, Single—Plain Pump 6 25

**BOBS, PLUMB.**

No. 16, Stearns' Hexagon all  
steel ..... per gross \$60 00  
No. 17, Stearns' Hexagon all  
steel ..... 75 00

**BOLTS.**

**Carriage, Machine, etc.**  
Carriage, 1x6 and sizes smaller,  
and shorter ..... 45-5%

Carriage, sizes larger and longer  
than 1x6 ..... 30-10%  
Machine, 1x4 and sizes smaller  
and shorter ..... 50-5%  
Machine, sizes larger and long-  
er than 1x4 ..... 40-5%  
Stove ..... 75%  
Tire ..... 60%

**Mortise, Door.**  
Gem, iron ..... 5%  
Gem, bronze plated ..... 5%

**Barrel.**  
Cast ..... Net  
Wrought .....  
Wrought, bronzed ..... "

**Flush.**  
Wrought .....  
Wrought, heavy ..... "

**Springs.**  
Wrought .....  
Wrought, heavy ..... "

**Square.**  
Wrought ..... "

**BORERS.**

**Angular.**  
Miller's Falls ..... per doz. \$23 00  
Sill borer, No. 51 ..... 34 00  
" 52 ..... 39 50

**Burg.**  
Enterprise Mfg. Co.'s No. 1 ..... 10%  
" No. 2 ..... 10%

**BOXES.**

**Mail, No.** ..... 2 4 10  
Per doz. .... \$18 00 23 00 29 00

**Misc.**  
Stanley's ..... Net Prices  
Stearns, No. 2 ..... per doz. \$30 00

**BRACES.**

Fray's Genuine Spofford's ..... 20&10%  
No. 08 ..... \$7 50  
No. 010 ..... 8 00

**BRACKETS.**

**Hay Rack.**  
Wenzelmann's No. 1, per doz.  
sets ..... \$18 00  
Wenzelmann's No. 2, per doz.  
sets ..... 19 20

**Shelf.**  
Wrought Steel ..... 40%

**Well.**

Oak, Wrought Iron Riveted  
Top Ears ..... per doz. \$8 00  
**BURRS, RIVETING.**  
Copper Burrs only ..... 25% above list  
Tinners' Iron Burrs only ..... 30%

**BUTTS.**

Cast Iron ..... 7 1/2%  
Wrought Brass (New List) ..... Plus 5%  
Wrought Steel, Bright ..... 40%  
Wrought Steel, Japanned ..... Net prices

**CALIPERS.**

Double ..... Net  
Inside and Outside .....  
Wing ..... "

**CALKS.**

**Logger's Boot.**  
(Lufkin R. Co.'s), per M. .... \$7 00  
Toe.  
Blunt and medium, 1 prong,  
per 100 lbs. .... \$6 00  
Sharp, 1 prong, per 100 lbs. .... 6 50

**CANS.**

**Milk.**  
Elgin.  
Gals. .... 5 8 10  
Each ..... \$4 00 \$5 15 \$5 15  
Iowa Pattern.  
Gals. .... 5 8 10  
Each ..... \$4 00 \$5 15 \$5 15

**CAN OPENERS.**

See Openers.

**CAPS, GUN.**

See Ammunition.

**CARPET STRETCHERS.**

See Stretchers.

**CARRIERS.**

**Hay.**  
Diamond, Regular ..... each, Net  
Diamond, Sling ..... "

**CARTRIDGES.**

See Ammunition.

**CASTERS.**

Standard—Ball Bearing ..... 50&10%  
Bed ..... 35%  
Common Plate.  
Brass Wheel ..... 15%  
Iron and porcelain wheels, new  
list ..... 50%  
Philadelphia Plate, new list ..... 50%  
Martin's ..... 40%

**CATCHERS, GRASS.**

No. 160S, per doz ..... \$12 25  
No. 165S, " ..... 14 01

**CEMENT, FURNACE.**

American Seal, 5 lb. cans, net \$0 45  
" " 10 lb. cans, " 90  
" " 25 lb. cans, " 1 87  
Pecora, 5 lb. cans ..... 45  
" 10 lb. cans ..... 90  
" 25 lb. cans ..... 1 87

**CHAIN AND CHAINS.**

**Breast Chains.**  
Doubleslack ..... doz. pairs, \$8 50  
With Covert Snaps ..... 5 80  
With Slide ..... 5 00  
Without Slide ..... 4 60  
**Cable Coil Chains**  
Inch. .... 1 1 1/2  
Per 100 lbs. .... 7 75 7 50 7 50

**Picture Chains.**

Light Brass, 3 ft. .... per doz. \$1 25  
Heavy Brass, 3 ft. .... 1 75

**Safety Chain.**

Brass ..... 5%

**Sash Chain.**

Steel, per 100 ft. (Morton's)

0 ..... \$2 50  
2 ..... 3 10  
1 ..... 3 60

**Champion Metal.**

0R ..... 5 40  
2R ..... 5 60  
1R ..... 7 75

**Champion Metal—Extra Heavy.**

1H ..... 9 50

**Cable Sash Chains.**

Steel ..... List Net Plus 15%

**CHALK, CARPENTERS'**

Blue ..... per gro., \$1 50  
Red ..... 1 50  
White ..... 1 45  
Common White School  
Crayon ..... 25c

**CHARCOAL.**

In bags ..... per bag \$1.70

**CHECKS, DOOR.**

Blount ..... Net list  
Corbin ..... "

**CHIMNEY TOPS.**

Iwan's Volcano ..... 35%

**CHISELS.**

**Box.**  
Inches ..... 12 14  
Round, per doz. .... \$5 25 5 75  
Flat, per doz. .... 7 25 8 25

**Cold.**

Good quality, 1 in. and  
larger ..... per lb. 28c  
Smaller size, per doz. .... Net  
**Socket, Firmer.**  
Ohio ..... Price on Application  
**Socket, Framing.**  
Ohio ..... Price on Application  
**Tanged, Firmer.—Barton's.**  
With handles ..... Net list  
**Choppers, See Cutters, Meat.**

**CHUCKS, DRILL.**

Goodell's, for Goodell's Screw  
Drivers ..... List less 35-40%  
Yankee, for Yankee Screw  
Drivers ..... 6 00

**CHURNS.**

Anti-Bent Wood,  
Gal. .... 5 7 10  
Each ..... \$3 90 4 60 4 85  
Belle, Barrel ..... 65&7 1/2%  
Common Dash,  
Gal. .... 5 7  
Per doz. .... 17 00 19 00

**CLAMPS.**

**Adjustable.**  
Martin's ..... 30%  
No. 63, Screw ..... List price plus 35%  
**Cabinet.**  
Screw ..... List price plus 35%

**Carpenters'.**  
Steel Bar ..... List price plus 10%

**Carriage Makers'.**  
2 1/2" ..... per doz. \$7 00  
3" ..... 14 00  
4" ..... 28 00  
12" ..... 46 00

**Quilt Frame.**  
No. 30 Ball and Socket, 2 1/2"  
head ..... per gross \$8 75  
No. 50, Ball and Socket, 3 1/2"  
head ..... per gross 10 25

**Hose.**  
Sherman's, brass, 1-in., per doz. 48c  
Double, brass, 1-in., " 1 20

**Saw Filers.**

Wentworth's, No. 1, \$12.50; No. 2,  
\$18.25. No. 3, \$16.25.

**CLAWS, TACK.**

Wood hdl. No. 10 ..... per doz. \$0 95  
Forged steel, wood hdl. .... \$1 75  
Solid steel ..... 2 40  
Giant ..... 50

**CLEANERS.**

**Drain.**  
Iwan's Adjustable ..... 40%  
Iwan's Stationary ..... 30%

**Pot.**  
Wire ..... per doz. \$0 75  
**Side-Walk.**  
Steel ..... per doz., Net prices

**CLEAVERS.**

**Family.**  
Beatty's, inch 7 8 9 10  
Per doz. .... \$27 00 29 00 33 00 36 00

**CLEAVISES.**

Malleable ..... 10c lb.

**CLIPPERS.**

Bolt ..... \$2 25&6 00

**CLIPS.**

Axle ..... 65&5%  
**Damper.**  
Standard ..... per doz. 70c  
Troy ..... 38c  
Hame ..... 50c

**CLOTH.**

**Emery.**  
Star ..... New Prices  
B. & A. ....  
**Hardware Wire—**  
Full rolls (100 ft.) Prices on  
application  
12 Mesh, galvanized .....  
14 " " " " " "  
16 " " " " " "  
18 " " " " " "  
**Screen Wire.** Prices on application  
12 mesh, painted, per 100 sq. ft. ....

**COLLARS, STOVE PIPE.**

**Lacquered.** Inches 5 6 7  
Fancy pattern,  
per doz. .... 80c 85c \$1 15

**COMPASSES.**

Carpenters' ..... 15%

**COPPER—See Metals.**

**COPPERS—Soldering.**

3 lb. and heavier ..... per lb. 55c  
2 1/2 lb. .... 56c  
2 lb. .... 57c  
1 1/2 lb. .... 58c  
1 lb. .... 61c

**CORD.**

**Picture.**  
White Wire ..... 70&10%  
**Sash.**  
Sampson Spot, No. 7, per doz. \$21.25  
Revenoc No. 7 ..... per doz. \$14.40

**CORKSCREWS.**

Walker's ..... 23c  
Williamson's Regular ..... 35&11%  
Williamson's Forged Worm ..... 40%

**COTTERS, SPRING.**

All sizes (new list) ..... 80%

**COUPLINGS, HOSE.**

Brass ..... per doz. \$2 25

**COVERS, WAGON—See Tents.**

**CRADLES, GRAIN.**

Morgan's Grapevine ..... per doz. \$45 00

CRAYONS—See Chalk.  
CROWBARS.  
Pinch or Wedge Point.....per lb. 8c

CUTTERS  
Woodward.....40%  
Meat.  
Enterprise—Nos. 5 10 12  
Each \$2 50 \$4 25 \$3 75  
" Nos. 22 32  
" 6 50 8 50

Pipe.  
Saunders', No. 1 2 3  
Each \$1 85 2 75 6 75  
Slaw and Kraut. Per doz.  
4-knife Kraut.....\$20 00-55 00  
3-knife Kraut, 8x27 in. 13 00-18 00  
1-knife Slaw.....2 50  
2-knife Slaw.....3 00  
Washer.....11 00

DAMPERS, STOVE PIPE.  
Ideal  
3".....\$1 00  
4".....1 05  
5".....1 15  
6".....1 25  
7".....2 20  
8".....3 75  
10".....6 00

DIES AND STOCKS.  
Discount.....New List

DIGGERS.  
Post Hole.  
Eureka.....per doz. \$14 50  
Iwan's Split Handle (Eureka) 13 00  
4-ft. Handle.....per doz. 13 00  
7-ft. ".....20 00  
Iwan's Perfection (Atlas) " 16 50  
Iwan's Hercules pattern " 18 00  
See also Augers—Post Hole.  
Dividers, Wing.....25%

DOOR CHECKS—See Checks.  
DOORS, SCREEN.  
1-in. 4-panel, painted.....Net Prices  
1-in. 4-panel, painted....."  
1-in. 3-panel, natural pine, fancy....."

DOOR HANGERS—See Hangers.

DRILLS.  
Blacksmiths' Twist. (New List)....40%  
Brest.  
Millers Falls No. 12.....Each, \$46 00  
" 112.....26 00  
Hand.  
Goodell's Automatic.  
Nos. 01 03  
Per doz. 12 00 14 40  
Goodell's Single Gear, per doz. 15 75  
Goodell-Pratt No. 4 1/2 per doz. list, less.....35-40%  
Goodell-Pratt No. 379 per doz. list, less.....35-40%  
Reciprocating.  
Goodell's.....per doz 26 00

DRIVERS, SCREW.  
Standard.....Nets  
Lock Ferrule....."  
Champion....."  
Champion Pattern....."  
Clark's Interchangeable....."  
Edison....."  
Reed's Lightning....."  
Goodell's Spiral....."  
Yankee Ratchet....."  
" Spiral....."

EAVES, TROUGH.  
65-10% off Standard List.

ELBOWS—Stove Pipe.  
1-piece Corrugated, Uniform.  
Doz.  
5-inch.....\$1 30  
6-inch.....1 45  
7-inch.....1 85  
Uniform, Color Adjustable  
Doz.  
5-inch.....\$1 30  
6-inch.....1 45  
7-inch.....1 80

ELBOWS—Conductor Pipe.  
Galvanized Steel, Tin and Terne, Round Corrugated.  
Size. Doz.  
2-inch.....40%  
3-inch.....65%  
4-inch.....65%  
5-inch.....65%

EMERY, TURKISH.  
Size. Doz.  
15c 8c 7 1/2c  
EYES.  
Bright Wire Screw—See Ooods, B. W  
Drifting Pick.....60, 10&5%  
Hooks and Eyes—  
Brass, 1 1/2" No. 60, per gross, \$3 50  
Iron " " 50, " " 1 60

FASTENERS, STORM SASIL.  
Shroeder's.....per doz. \$1 5-  
Sensible....." 3 00

FILES AND RASPS.  
Delta  
Delta.....30%  
Swiss.....List plus 25%  
Utility....." net.  
Nicholson's—  
American.....50-10-7 1/2%  
Arcade.....50-10-7 1/2%  
Each Diamond.....40&10%  
Eagle.....50-10-7 1/2%  
Great Western.....50-10-7 1/2%  
Kearney & Foot.....50-10-7 1/2%  
McClellan.....50-10-7 1/2%  
Nicholson brand.....40&10%  
J. Barton Smith.....50&2 1/2%  
X-F Swiss Pattern.....Net list.

Simonds'.....50%  
Diston's.....50&10%  
Heller's.....60&10%

FORKS.  
Barley.  
Steel, new list.....New Prices  
Hay.  
2-tine.....New prices  
3- ".....New prices  
4- ".....New prices  
Digging.....New prices  
Scoop.....New prices  
Header.  
3-tine.....New prices  
4- ".....New prices  
Manure.  
4-tine.....New prices

FREEZERS—ICE CREAM.  
White Mountain 1-quart.....@  
" " 2 ".....@  
" " 4 ".....@  
" " 6 ".....@  
Arctic.....1 ".....@  
" " 2 ".....@  
" " 4 ".....@  
" " 6 ".....@  
Prices on application

GAUGES.  
Cream Pail.  
Fairmount.....per doz. \$3 75  
Marking, Mortise, etc.....Nets  
Wire.  
Diston's.....25%

GIMLETS.  
Discount.....35&40%

GLUE.  
Bulk.  
B Amber.....per lb. 35c  
A White....." 40c  
H. S. Amber....." 32c  
Liquid.  
Army & Navy.....40%  
Le Page's—  
List "A".....37 1/2%  
List "B".....33 1/2%  
List "C".....25%

GREASE, AXLE.  
Wood Boxes.  
Frazer's.....per gro. \$13 00  
Hub Lightning.....7 50

Wood Pails.  
Frazer's, 15lb.\$1.00; 25 lb.\$1.50 each  
Hub Lightning, 15 lb. 90c; 25 lb. \$1.21 each.  
Tin Cans.  
Frazer's  
1 1/2 lb. per doz.....\$1 75  
3 lb. per doz.....3 25

GRINDSTONES.  
Family.  
Inches.. 7 8 10 12  
Per doz..20 50 21 75 26 25 30 50  
Loose.  
Per ton.....Price on application  
Mounted.  
Ball Bearing.....1 2 3  
Each.....\$4 75 5 00 5 25

GUN WADS.  
(See Ammunition).

GUNS.  
Iver Johnson Champion Single Barrel Shot Guns.....Net Prices  
Double Barrel, Hammerless....."

HAFTS, AWL.  
Brad.  
Common.....per doz. \$0 35  
Peg.  
Patent, plain top....." 80  
Patent, leather top....." 90  
Sewing.  
Common....." 24  
Patent....." 55

HAMMERS, HANDLED.  
per doz., net.  
Blacksmiths, Hand, No. 0, 26 oz.\$11 11  
Engineers', No. 1, 26 oz.....11 11  
Farriers', No. 6, 7 oz.....7 23  
Machinists', No. 1, 7 oz.....6 65

Nail.  
Vanadium, No. 4 1/2, 16 oz., per doz.....\$17 50  
V. B., No. 1 1/2, 16 oz. per doz. 13 93  
Garden City, No. 1 1/2, 16 oz., per doz. 11 90  
Tinner's Riveting, No. 1, 8 oz., per doz. 9 40  
Shoe, Steel, No. 1, 13 oz. per doz. 10 00  
Tack  
Magnetic.  
Per doz.....\$5 63

HAMMERS, HEAVY.  
Heavy Hammers and Sledges.  
Under 5 lbs.....50%  
5 lbs. and over.....50&10%  
Masons'.  
Single and Double Face.....50%

HANDLES.  
Auger.  
Common Assorted.....per doz. \$0 75  
Pratt's Adjustable, Nos. 1 & 2, per doz. 6 00  
Ives' Adjustable.....per set, 1 35  
Axe.....30%

Chisel.  
Hickory, Tanged, Firmer, Assorted, 55c; Large, 85c per doz.  
Hickory, Socket Firmer, Assorted, 70c; Large size, 80c per doz.  
Coil Pick.....40%  
Drifting Pick.....40%  
File, assorted, 30c; Large, 35c per doz

Hammer.  
Adze Eye.....per doz. 40 to \$1 00  
Blacksmiths'....." 45c@1 00  
Machinists'....." 50c@1 00  
Hay and Manure Fork.....25%  
Screw Driver.  
Assorted....." 60  
Large....." 90  
Shovel and Spade.....25%

HANGERS.  
Barn Door.  
U. S. Rolled Bearing.....12 1/2%  
Matchless.....12 1/2%  
Warehouse Tandem, No. 44.....33 1/2%

Conductor R.  
Iwan's Perfection.....45%  
Eave Trough.  
All sizes. 5" or smaller, per gross. \$3 80 Net  
All sizes, larger than 5", per gross. 5 00 "

Garage Door.  
Right Angle.....50&10%  
Sliding Folding.....50%  
Receding.....50%  
Parlor Door.  
Acme.....per set, \$3 75  
Ives' Improved....." 3 40  
Lane's Standard....." 3 50  
Lane's New Model....." 3 10  
Le Roy Noiseless.....40&10%  
Richards.....25%  
Advance.....40&10%

HASPS.  
Hinge, Wrought.....Add 50% to list.  
With Staples—See Staples.

HATCHETS.  
Crescent.....50%  
Cast Claw.....per doz. \$1 50@1 85  
Cast Shingling....." 1 50@1 85  
Germantown.....7 1/2%

HAY KNIVES.  
See Knives.  
HAY RACK BRACKETS  
Wenzleman's No.1 per doz. sets, \$18 00  
Wenzleman's No. 2 " " 19 20

HINGES.  
Blind.  
Clark's Gravity  
No. 1.....per doz. sets, \$2 25  
No. 3....." " 5 75  
Gate.  
Clark's....." 2 3  
Hgs & Lth, doz. \$5 50 7 00 9 75  
Hinges only " 4 75 5 50 8 00  
Latches only. 1 90 1 90 ....

Screen Door.  
Cast Iron.....gross \$10 00  
Steel....." 7 00

Spring.  
Chicago.....Add 12 1/2% to list.  
Columbia Dbl. Acting.....40&10&5%  
Gem.....25%  
Ideal Detachable.....per gro. \$11 00  
Matchless.....40%  
New Idea.....per gro. \$7 20  
Oxford.....20%

Wrought Iron.  
New Lists.....  
Light Strap Hinges.....15%  
Heavy Strap Hinges.....25&5%  
Light T Hinges.....15&5%  
Heavy T Hinges.....20&5%  
Extra Heavy T Hinges.....25%

Screw Hook and Strap.  
6 to 12 in.....per 100 lbs. \$7 75  
14 to 20 in....." 7 50  
22 to 36 in....." 7 25

Screw Hook and Eye.  
1 in.....per doz. pair \$2 60  
1 1/2 in....." 3 50  
1 3/4 in....." 5 00

HOES.  
Garden.....Net

Grub.  
Extra.....New prices  
Hazel.....per doz. New prices  
Ladies' and Boys'.....New prices  
Mortar.....New prices  
Planter's Eye.....New prices  
Weed.....New prices

HOCKS.  
Awning, No. 60.....per gro. 50%  
Bell.  
Brown's.....70&5%  
Jones'.....65&5%

Bench.  
See Stops, Bench.



PARERS.		TINNERS'.		PUNCHES.		SAWS.	
Apple.		Hollow.....Net list		Conductors.		Band.	
Goodell's.....per doz. \$10 41		Solid.....each, 10c		No. 22.....per doz. \$3 00		E. C. Atkins & Co. Prices on applic'n	
Turntable....." 11 10		PLUMBS AND LEVELS.		Machine.....per lb. 25		Disston's.....Prices on applic'n	
White Mountain....." 8 40		Common.....Nets		Saddlers'.		Buck.	
Reading, No. 78....." 11 40		Cook's.....40%		Common.....per doz. 1 50 to 5 00		Disston's.....Prices on applic'n	
Potato.		Davis' Iron.....25%		Revolving Spring.		Jackson's.....New nets	
Goodsell's Saratoga, 10 1/2 in., dz. 6 50		Davis' Inclinator.....15%		Stearns, No. 10.....per doz. \$ 5 50		Butchers'.	
Goodsell's Saratoga, 5 in., dz. 5 50		POINTERS, SPOKE.		" No. 40....." 11 00		E. C. Atkins & Co. Prices on applic'n	
PICKS.		Stearns' No. 1.....per doz. \$ 8 00		" No. 60....." 14 50		Disston's.....Prices on applic'n	
Adse Eye Ore.....224%		" No. 2....." 10 00		PUTTY.		Hiles'.....New nets	
Drifting and Poll Picks.....224%		POKERS, STOVE.		Strictly pure.....per 100 lbs. \$4 25		Compass.	
Plumbs, Railroad.....224%		Wr't Steel, str't or bent per doz. \$0 75		RAIL.		E. C. Atkins & Co. Prices on applic'n	
Surface.....224%		Nickel Plated, coil han's " 1 10		Barn Door.		Disston's.....Prices on applic'n	
PINCERS.		POLISH.		Matchless, 1-in.....5c		Coping.	
Carpenters', cast steel.		Burnshine.....doz. \$1 10		Matchless, 1 1/2-in.....7c		E. C. Atkins & Co. Prices on applic'n	
Inches.....6 8 10 12		1-pint....." 1 50		Storm King.....5c		Disston's.....Prices on applic'n	
Per doz.....\$3 75 4 75 6 25 7 00		1-pint....." 2 60		Sliding Door.		Cross-Cut.	
Blacksmiths.....45%		1-quart....." 5 00		Bronzed wrought iron.....per ft. 8 1/2c		E. C. Atkins & Co. Prices on applic'n	
Heller's.....40%		1-gal....." 9 00		RAKES.		Disston's.....Prices on applic'n	
PINS.		1-gal....." 15 00		Garden.		Dehorning.	
Common.....per box of 5 gro. \$0 95		Metal.		Steel, Bow, 12-inch Teeth.....\$8 50		Disston's.....Prices on applic'n	
Pickel.		Wizard, 6 oz.....per gross \$17 40		Steel, Bow, 14-inch " 9 25		Hack.	
Pluted, 15-in.....per doz. \$1 10		" 1 pt....." 19 20		Malleable Iron, 12-in. " 4 75		Disston's.....Prices on applic'n	
Pluted, 21-in....." 1 60		" 1 qt....." 36 00		Malleable Iron, 14-in. " 5 00		Hand and Rip.	
Spiral....." 1 90		" 1 gal....." 5 40		Hay.		E. C. Atkins & Co. Prices on applic'n	
PIPE.		" 1 gal....." 9 60		Wood, 10 Teeth.....\$4 00		Disston's No. 7.....Prices on applic'n	
Conductor.		" 1 gal....." 15 60		Lawn.		Disston's Nos. 8, D8, 12, 76, 112,	
Plain Round and Round Corrugated		Stone.		20 Teeth.....per doz. \$5 50		D100, and 120. Prices on applic'n	
29 Gauge.....65%		Black Eagle Paste, 1-lb. cans,		RASPS—See Files.		Keystone.....New nets	
28 ".....55%		per gross.....\$30 00		RAZORS—SAFETY.		Keyhole.	
26 ".....45%		Black Eagle Paste, 5-lb. cans,		Gillette.....per doz. \$45 00		E. C. Atkins & Co. Prices on applic'n	
24 ".....20%		per case.....4 90		Auto Strop....." 45 00		Disston's.....Prices on applic'n	
Square Corrugated A and B and		Black Jack Paste, #10, 8 oz.,		Gem....." 8 40		E. C. Atkins & Co. Prices on applic'n	
Octagon.....		per gross.....11 40		Gem (3 doz. lots)....." 8 00		Disston's.....Prices on applic'n	
29 Gauge.....50%		Black Eagle Liquid, 6 oz.,		Ever Ready....." 8 40		Patternmakers'.	
28 ".....45%		per gross.....13 20		Ever Ready (3 doz. lots)....." 8 00		E. C. Atkins & Co. Prices on applic'n	
26 ".....35%		PIRE POTS.		RAZOR STROPS.		Disston's.....Prices on applic'n	
24 ".....15%		Clayton & Lambert's, each \$4 00@6 00		Star (Honing).....50%		Pruning.	
Square Corrugated A and B Polygon		Gate City.....each, 6 25		REGISTERS.		Disston's.....Prices on applic'n	
and Octagon.....		Gem.....each, \$6 75@8 50		Japanned, Bronzed & Plated.....30%		Stairbuilders'.	
28 Gauge.....45%		POWDER.		Solid Brass or Bronze Metal.....List		E. C. Atkins & Co. Prices on applic'n	
26 ".....35%		See Ammunition,		Baseboard.....30%		Disston's.....Prices on applic'n	
24 ".....15%		PRESSES, FRUIT AND JELLY.		REGISTER FACES.		Wood.	
14 and 16 oz. Copper, all designs.....20%		Enterprise Manufacturing Co.....25%		Japanned, Bronzed and Plated.		E. C. Atkins & Co. Prices on applic'n	
Portico Elbows.		PRIMERS.		4x6 to 14x14.....30%		Disston's.....Prices on applic'n	
Galvanized and Terne Steel.		See Ammunition.		14x14 to 38x42.....50%		SAW BUCKS—See Bucks.	
1-inch.....45%		PRUNERS.		REVOLVERS.		SAW SETS—See Sets	
1 1/2-inch.....45%		Disston's Pole.....per doz. \$18 00		Iver Johnson Safety Automatic		SAW TOOLS—See Tools.	
1 3/4-inch.....45%		Water's Improved....." 60%		Hammer.....New Nets		SAW FRAMES.	
2-inch.....45%		PULLERS.		Hammerless....."		Common, plain.....per doz. \$1 50	
Tubing.....40%		Daisy.....each, \$3 10		I. J. Model 1900....."		Common painted....." 2 10	
Discounts on Round apply on sizes 2		Phoenix....." 1 40		RINGS AND RINGERS.		SCALES.	
inch to 6 inch inclusive.		Quick and Easy....." 2 70		Copper.....2 1/2-in. 3-in.		Pelouse.....40&10%	
Freight allowed on 15 dozen or more.		NAIL.		Per doz.....\$2 75 \$3 25		SCISSORS.	
Less than 15 dozen F. O. B. Factory.		Giant.....per doz. 14 50		Rea's Improved Self-		Star.....60%	
Terms: 30 days net, 2% ten days.		Never-Slip....." 17 00		Piercing copper, doz. 3 40		SCOOPS.	
Standard Gauge Conductor Pipe,		PULLEYS.		Steel, per doz.....1 50 1 80		Grain.	
plain or corrugated.		Awning—Jap'd.....10%		Hog.		1 bu. "Hercules".....per doz. 3 70	
Not Nested.....55%		Clothes Line.....10%		Blair's Rings.....per doz. \$ 75		1 bu. "Hercules"....." 5 00	
Ne ted solid.....60% off		Hay Fork.		Blair's Ringers....." 1 00		Box.	
Stove.		Iron Wheel, 5-in.....per doz. 2 50		Brown's Rings....." 72		SCRAPERS.	
29-Gauge, 3-inch.....\$12 25		Wood Wheel, 6-in....." 2 65		Brown's Rings....." 1 00		Triangular, No. 6.....per doz. \$6 25	
" 4-inch.....13 75		Wood Wheel, 6-in., pass knot,		Hill's Rings....." 1 00		Cabinet.	
" 5-inch.....15 25		.....per doz. 3 00		Hill's Ring, boxes....." 72		Stearns' No. 8.....per doz. \$11 50	
" 6-inch.....16 25		SASH.		Major Rings....." 60		" No. 9, Ball and	
" 7-inch.....19 00		Common.....Net		Perfect Rings....." 1 50		Socket.....per doz. \$12 00	
T-Joint, Made-up.		Common-Sense, 2-in.....Net		Wolverine Rings....." 1 65		Floor.	
6-inch.....per 100 \$35 00		Empire Pattern, 2-in.....Net		Wolverine Rings....." 1 10		No. 10, Stearns'.....each \$14 00	
Furnace Pipe.		Ideal.....Net		FRUIT JAR.		Road.	
Double Wall Pipe and Fittings 25%		Steel.....Net		White.....per lb.....30c		Cubic ft.....7 5 3	
Single Wall Pipe, Round Pipe		PUMPS.		Key.		With runners, ea. \$7 00 6 50 6 20	
Fittings.....25%		Pitcher Spout.		Split, round.....per doz. \$0 17		SCREEN DOOR HINGES.	
Galvan'd and Black Iron Pipe,		Nos.....1 2 3 4		Split, square....." 32		Cast iron.....gross, \$13 00	
Shoes, etc.....25%		Each.....Nets		Ball, round....." 40		Steel....." 9 50	
PLANES.		SPRAY.		RIVETS.		SCREWS.	
Stanley Iron Bench.....net		Midget Junior.....per doz. 3 75		Copper Belt.....Add 15% to list		Iron, ins. 1 1 1/2 1 3/4 1 1/2	
PLATES, TIN.		New Misty....." 6 00		Coppered Iron.....30%		\$9 75 \$1 50 13 75 21 50	
See Metals in Column 1.		Crescent....." 6 50		Tinners'.....30%		Wood, white maple.....per doz. 6 00	
PLIERS.		ROPE.		Hame.....per lb. \$0 17		Hand—Wood.....35%	
Giant, Button's—Nets		Cotton.		Slotted Clinch.....per doz. 60c@1 10		Hand Rail.....224%	
Cutting.		1, 5-16 in. Com. on reels, per lb. 85c		Tubular.		Jack.....33 1/2%	
Bernard's.....New Prices		1, 5-16 in. Com. in coils.....75c		Nos. 1 and 2 assorted sizes, 50		Log or Coach—all sizes, gimlet	
Lodi.....New Prices		Sisal.		in box.....doz. 75c		pointed.....50-5%	
Paragon.....New Prices		1st Quality.....20 c		Nos. 1 and 2 assorted sizes, 10		SAW—Centennial,	
Fencing.		No. 2.....17 1/2c		in box.....doz. 1 40		Nos.....1 2 3 4	
Black Bull.....All Nets		Pure Manila.		See Sets.		Per doz.....47c 55c 75c 90c	
Farmers' Choice.....All Nets		1st quality, base.....per lb. 24 1/2c		Cotton.		Wood.	
Russell's.....All Nets		Hardware Grade.....23 1/2c		1, 5-16 in. Com. on reels, per lb. 85c		F. H. Bright.....70-10-10%	
Flat and Round Nose.		RULES.		1, 5-16 in. Com. in coils.....75c		R. H. Blued.....65-10-10%	
Bernard's.....New Prices		Clipper, ass.....per doz. \$13 50		Sisal.		F. H. Jap'd.....62-10-10%	
Lodi.....New Prices		Hickory Board.....20%		1st Quality.....20 c		F. H. Brass.....42-10-5%	
Paragon.....New Prices		Log.....20%		No. 2.....17 1/2c		R. H. Brass.....40-10-5%	
Gas.—Inches 7 8 10 12 14		Honest Dutchman....." 13 70		Pure Manila.		R. H. Nickel Plated.....57-10-10%	
Pe: doz. 5 00 5 50 7 00 8 00 10 00		SCYTHES.		1st quality, base.....per lb. 24 1/2c		Clipper, ass.....per doz. \$13 50	
		Nos.....1 2 3 4		Hardware Grade.....23 1/2c		Honest Dutchman....." 13 70	

SETS.		SQUARES.		TAPES, MEASURING.		WARE.	
Nail.		Steel and Iron.....Nets new list		Asses' Skin.....List Net		Glue Pots.	
Square head.....per doz. \$1 25		(Add, for bluing, \$3.00 per doz., net.)		Lufkin's Steel.....		Tinned.....Add 15% to list	
Cup point, knurled.....1 15		Mitre.....Nets		Lufkin's Metallic List to list plus 20%		Enameled.....30%	
Rivet.		Try and Bevel.....		Lufkin's Pocket.....10%		WASH BOARDS—See Boards.	
Farmers'.....per doz. \$2 10		Try and Mitre.....		THERMOMETERS.		WASHERS.	
Tinners'.....25%		Fox's.....per doz. \$6 00		Tin Case.....per doz. 80c@\$ 1 25		Standard O. G. cast iron...per lb. 3½c	
Saw.		Winterbottom's.....10%		Wood Back.....\$2 00@ 12 00		Wrought steel in 5-lb. boxes, per lb.:	
Aiken's Pattern.....per doz. \$6 50		SQUEEZERS, LEMON.		Glass.....12 00		In. 3/16 1/2 5/16 3/4 1 1 1/4 1 1/2 1 3/4 2	
Disston's Monarch.....7 20		Common Wood.....per doz. \$0 70		TIES.		WEDGES.	
Disston's X-Cut.....13 50		Porcelain Lined, Wood.....1 25		Bale.....		Ax.....per doz. Nets	
Leach's.....80		Boes, malleable iron.....1 20		Single Loop, carload lots.....75&7%		Galling.....per lb. "	
Nash's Hand.....3 15		Iron frame, porc'n bowl.....1 90		" less than car lots 70&15%		Saw.....8½	
Nash's X-Cut.....4 20		Iron Frame, glass bowl.....2 35		Cow—See "Chains."		WEANERS.	
Stillman's Lever.....1 30		Little Giant, tin'd iron.....4 00		TOOLS, SAW.		Calif.	
Stillman's X-Cut.....2 50		Drum, japanned.....3 60		Diaston's Universal.....40%		Fuller's, per doz.....\$2 00 to \$2 50	
Stearns H'nd, No. 100.....7 50		Drum, nickel plated.....4 50		TRAPS.		Tyler's Safety, per doz. 1 85 to 2 40	
" X-cut, No. 103.....17 50		STAPLES.		Mole.....		Carroll's, per doz. 3 00 to 3 75	
" No. 104.....17 50		Blind.....		Reddick's.....per doz. \$9 50		Hoosier, per doz. 3 50 to 4 60	
Whiting Pattern, No. 21.....5 75		Barbed.....per lb. 21 @ 22c		Game with Chains.....		Shaw Perfected.....3 00 to 3 75	
Eccentric Anvil, Hand, No. 395, N. P. Morrill Pattern.....11 50		Butter Tub.....16 @ 19c		Victor No. 1.....\$1 65		WEIGHTS.	
Stearns Hand, No. 105, N. P. Morrill Pattern.....10 00		Fence—		Oneida Jump No. 1.....2 25		Hitching.....per lb. Nets	
SHARPENERS, SKATE.		Polished.....per 100 lbs. \$5 45		Newhouse No. 1.....3 85		Sash—L.O.B. Chicago.....	
Diamond.....per doz. \$1 60		Galvanized.....6 15		Mouse and Rat.....Net per gross		Ton lots, per ton.....\$57 00	
Perfect.....1 20		Netting.....		Out O'Sight Mouse.....\$ 8 00		Smaller lots, per ton.....60 00	
SHAVES, SPOKE.		Galvanized.....per 100 lbs. 6 50		" Rat.....15 00		WHEEL BARROWS.	
Stearns' No. 1.....per doz. \$2 20		Wrought.		" Mole.....100 00		No. 4 Tubular Steel.....@ \$7 00	
" No. 2.....4 50		Wrought Staples, Hasps and		#44 Pocket Gopher.....20 00		Common Tray or Stave Tray @ 2 25	
" Nos. 3, 4, 5, 6.....3 75		Staples, Hasps, Hooks and		Victor Mouse.....2 60		Angle leg, garden.....@ 4 00	
" Nos. 7, 8.....5 00		Staples, and Hooks and		Hold Fast Mouse.....2 60		WHEELS.	
" No. 9.....3 50		Staples.....30&10%		Victor Rat.....11 00		Carborundum.....50%	
SHEARS.		Extra heavy.....35%		Hold Fast Rat.....11 00		Emery.....60%	
Buckeye, No. 1.....per doz. \$5 75		STEELYARD.		Official Rat.....13 50		Well, Ins.....8 10 12	
Buckeye, No. 2.....7 40		Discount 25%.		Wood Choker Mouse, 4 Holes 11 00		Per doz.....\$5 50 7 25 9 50	
California Pat., 9-in.....3 20		AXE.		Brick.		12 in. heavy hoisting, per doz. \$26 00	
California Pat., 10-in.....4 00		Hindostan.....per lb. New Nets		Clover Leaf.....30%		WIRE.	
Draw Cut, No. 3.....13 75		More Grit.....		Brade's.....15&5%		Brass.....	
Draw Cut, No. 4.....16 50		Washita.....		Disston's.....30%		In coils.....Nets	
Henry's Pat 0.....14 012		Emery.		Rose's.....Net		In 1-lb. spools, new list.....Nets	
Per doz. \$1 40 2 10 2 90 2 80		No. 126.....per doz. New Nets		Plaster's.		Broom—Tinned.....Nets	
Star.....per doz. \$4 00		Oil—Mounted.		Clover Leaf.....40%		Cable—Same price as Barbed Wire.	
Sheep—No. BBA.....6 64 7		Arkansas Hard No. 7 per doz. New Nets		Disston's.....25%		Copper.	
Inches.....		Arkansas Soft.....		W. & MCP.....Net		In coils.....Nets	
Reg. Grip.....\$11 25 11 50 12 00		Washita No. 717.....		TRUCKS.		1-lb. spools, new list.....Nets	
Nar. Grip, doz. 11 00 11 25 12 25		Oil—Unmounted.		Bag.....each, \$3 75		In coils.....Nets	
Star.....60%		Arkansas Hard.....per lb. New Nets		Warehouse or store.....		Broom—Tinned.....Nets	
Tinners—See Snips.		Arkansas Soft.....		No.....1 2 3		Cable—Same price as Barbed Wire.	
SHEAVES, SLIDING DOOR.		Lily White.....		Half Ironed.....\$5 00 6 50 9 40		Copper.	
Common.....		Queer Creek.....		Full Ironed.....5 75 7 50 11 00		In coils.....Nets	
Inches.....3 4 5		Washita.....		TUBS, WASH.		1-lb. spools, new list.....Nets	
Per set.....\$1 40 1 75 2 40		Scythe.		Standard, Wood.....Bx.		Fence—Smooth.....An'eal'd Galv'd	
Hatfield's.....		Black Diamond.....per gro. New Nets		Nos.....3 2 1 large		Nos. 6 to 9, less than	
SHELLS—See Ammunition.		Crescent.....		Per doz.....\$9 50 11 25 12 75 15 50		car, per 100 lbs....\$4 25 \$4 95	
SHELLERS, CORN.		Green Mountain.....		Galvanized.		Hair—New List.....40&10%	
Union.....per doz. \$6 75		LaMoille.....		No.....1 2 3		Market.	
SHIELDS.....60%		Extra Quinnebog.....		Per doz.....15 20 13 25 20 00		Market Quotations	
Expansion Bolt Shields.....60%		Red End.....		TWINE.		Bright, full bdles.....	
SHOES.		STOPPERS, BENCH.		3-ply Cotton Wrapping.....		Bright, broken bdles.....	
Conductor.....60%		No. 10 Morrill pattern, per doz. \$9 75		Extra Wrapping.....		Coppered, full bdles.....	
SHOT—See Ammunition.		No. 11 Stearns.....8 75		Hvy. Wrapping.....		Coppered, broken bdles.....	
SHOVELS AND SPADES.		No. 15 Smith.....6 00		Wrapping on tubes.....		Tinned, full bdles.....	
No. 2, Woodford.....per doz. \$5 50		STOPPERS, FLUE.		India Hemp, 1-lb. balls, No. 18.....		Tinned, broken bdles.....	
No. 182.....6 00		Common.....per doz. \$1 10		2-ply Jute, 1-lb. balls.....		Picture—In coils.....80% @ 80&10%	
Ames', new list.....Discount, 12½%		Gem, flat, No. 3.....1 00		Seins.		In 5-lb. spools.....per lb. .26c	
Per doz.		Gem, No. 1.....1 10		Soft.....per lb.....Quotation		WRENCHES.	
Neverbreak, hollow bck, blk.....Nets		STOVE PIPE—See pipe.		Med.....		Acme Standard.....50&10%	
National.....		STOVE BOARDS—See Boards.		Hard.....		Alligator No. 1.....90c net	
Buckeye.....		STOVE POLISH—See Polish.		Staging, 1-lb. ball, size 21.....		Always Ready.....30%	
Mohawk.....		STRAPS.		" 24.....		Agricultural.....50&5%	
Bar Drain & Ditching		Skate.....per doz. 85c & 1 20		" 27.....		Ellis Adjustable.....25%	
Iwan's Perfection.....\$30 00		STRETCHERS.		Bagging, 1-lb ball.....		Malleable "S".....per lb. 08c	
Railroad, etc.		Carpet.....		3-ply, "B" in hanks.....		Malleable....." 08c	
Black Diamond.....per doz. Net		Bullard's.....per doz. \$3 90		4- " " ".....		Stillson Pipe.....60%	
Crescent.....		Excelsior.....5 25		3- " "A".....		Bemis & Call's:	
Keystone.....		Malleable Iron.....70		3- " Silver Finish, in hanks.....		Adjustable S, 15%; Adjustable S	
Star.....		Perfection.....6 30		Fodder or Lath.		Pipe, 15%; Briggs' Pattern, 10%	
Hollow Back.....		King.....4 50		130 strand.....		Combination Bright.....20%	
Ames', new list.....Discount, 12½%		WIRE.		VOISES.		Steel Handle Nut.....20%	
Galvanized, with wood han-		O. S. Elwood, No. 1.....per doz. Nets		No. 21, Hand.....\$5 00		Combination Black.....20%	
dle, No. 56.....\$1 45		O. S. Elwood, No. 2.....		Oval Slide, Inches 2 1/2 3 3 1/2 4 1/2		Merrick Pattern.....20%	
No. 55.....1 55		Malleable Iron.....per lb. \$0 10		Each \$2.40 \$2.60 \$3.00 \$3.75 \$7.75		Knife Handle Pattern.	
Alaska Steel.		Wrought Steel.....per gro. 4 50		No. 0, Stearns' Saw, common pattern.....per doz. \$6 75		No. 62, Screw Wrench, List, plus 5%	
D-Handle.....per doz. \$3 50		TACKS.		No. 3, Stearns' Saw, common pattern.....per doz. 11 50		No. 60, Steel Handle.....	
Long Handle.....3 00		Bill Posters' 6-oz., 25 lb. boxes, per lb. 15c		No. 4, Stearns' Saw, common pattern.....per doz. 12 00		WRINGERS.	
SINKS.		Upholsters' 6-oz., 25-lb. boxes, per lb. 15c		No. 5, Stearns' Saw, Ball and Socket pattern.....per doz. 17 00		N 790, Guarantee.....per doz. \$61 00	
Cast Iron.		WIRE.		No. 1, Genuine Wentworth, Noiseless Saw.....per doz. 12 50		No. 770, Bicycle.....57 00	
Painted, 16x24.....Net		O. S. Elwood, No. 1.....per doz. Nets		No. 2, Genuine Wentworth, Noiseless Saw.....per doz. 18 25		No. 110, Domestic.....50 50	
Enameled, White, 16x24.....		O. S. Elwood, No. 2.....		No. 3, Genuine Wentworth, Noiseless Saw.....per doz. 16 25		No. 110, Brighton.....46 50	
Wrought Steel.		Malleable Iron.....per lb. \$0 10		No. 500, All Steel Folding Saw.....per doz. 11 25		No. 740, Bicycle.....55 00	
Painted, 16x24.....		Wrought Steel.....per gro. 4 50				No. 22, Domestic.....48 50	
SLEDGES—See Hammers.		TACKS.				No. 22, Pioneer.....44 50	
SNAPS, HARNESS.		Bill Posters' 6-oz., 25 lb. boxes, per lb. 15c				No. 770B, Bicycle.....92 00	
Covered Spring.....Add 30%		Upholsters' 6-oz., 25-lb. boxes, per lb. 15c				No. 781B Guarantee.....101 00	
Judd's Pattern.....Add 33½% to list		WIRE.					
SNATHS.		O. S. Elwood, No. 1.....per doz. Nets					
Double Ring, Bush.....per doz. \$9 75		O. S. Elwood, No. 2.....					
Patent Loop, Bush.....10 00		Malleable Iron.....per lb. \$0 10					
Patent Loop, Grass.....8 75		Wrought Steel.....per gro. 4 50					
SNIPS, TINNERS'.		TACKS.					
Clover Leaf.....40&10%		Bill Posters' 6-oz., 25 lb. boxes, per lb. 15c					
National.....40&10%		Upholsters' 6-oz., 25-lb. boxes, per lb. 15c					
Star.....50%		WIRE.					
SOLDER—See Metals.		O. S. Elwood, No. 1.....per doz. Nets					
SPRINGS, DOOR.		O. S. Elwood, No. 2.....					
Perfect.		Malleable Iron.....per lb. \$0 10					
Nos. 2 3 4 5 6 7		Wrought Steel.....per gro. 4 50					
Per doz. .55c 60c 65c 75c 90c 1 00		TACKS.					
Reliance.		Bill Posters' 6-oz., 25 lb. boxes, per lb. 15c					
Light Medium Heavy		Upholsters' 6-oz., 25-lb. boxes, per lb. 15c					
Per doz. \$1 55 2 40 3 20		WIRE.					
Torrey's.....per doz. 1 65		O. S. Elwood, No. 1.....per doz. Nets					
SPRINKLERS, LAWN.		O. S. Elwood, No. 2.....					
Stearns' No. 1.....per doz. \$9 75		Malleable Iron.....per lb. \$0 10					

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<b>Fence Gates.</b>	
American Steel & Wire Co., Chicago, Ill.	
Pittsburgh Steel Co., Pittsburgh, Pa.	
<b>Fencing—Wire.</b>	
Pittsburgh Steel Co., Pittsburgh, Pa.	

<b>Delta File Wks., Philadelphia, Pa.</b>	
<b>Heller Bros. Co., Newark, N. J.</b>	
<b>Flux—Soldering.</b>	
Allen Co., Inc., L. B., Chicago, Ill.	
<b>Furnace Rings.</b>	
Walworth Run Fdy. Co., Cleveland, Ohio.	
<b>Furnaces—Soldering.</b>	
Ashton Mfg. Co., Newark, N. J.	
Burgess Soldering Furnace Co., Columbus, Ohio.	
Clayton & Lambert Mfg. Co., Detroit, Mich.	
Hones, Inc., Chas. A., Brooklyn, N. Y.	
Ringen Stove Co., St. Louis, Mo.	
Turner Brass Works, Sycamore, Ill.	
<b>Hammers.</b>	
Stanley Rule & Level Co., New Britain, Conn.	
<b>Handles—Boiler.</b>	
Berger Bros. Co., Philadelphia, Pa.	
<b>Hangers—Eaves Trough.</b>	
Abbott Mfg. Co., Cleveland, Ohio.	
<b>Heaters—School Room.</b>	
Haynes-Langenberg Mfg. Co., St. Louis, Mo.	
Monroe Fdy. & Furnace Co., Monroe, Mich.	
Peerless Foundry Co., Indianapolis, Ind.	
Standard Furnace & Supply Co., Omaha, Neb.	
<b>Heaters—Warm Air.</b>	
Danville Stove & Mfg. Co., Danville, Pa.	
Forest City Fdy. & Mfg. Co., Cleveland, Ohio.	
Hall-Neal Furnace Co., Indianapolis, Ind.	
Haynes-Langenberg Mfg. Co., St. Louis, Mo.	
Henry-Miller Foundry Co., Cleveland, Ohio.	
Hess-Snyder Co., Massillon, Ohio.	
Mahoning Foundry Co., Youngstown, Ohio.	
May-Fiebeger Furnace Co., Newark, Ohio.	
Monitor Stove Co., Cincinnati, Ohio.	
Monroe Fdy. & Furnace Co., Monroe, Mich.	
Peerless Foundry Co., Indianapolis, Ind.	
Scheible-Moncrief Heater Co., Cleveland, Ohio.	
Schill Bros. Co., Crestline, Ohio.	
Schwab & Sons Co., R. J., Milwaukee, Wis.	
Standard Furnace & Supply Co., Omaha, Neb.	
Tubular Heating & Ventilating Co., Philadelphia, Pa.	
XXth Century Heating & Ventilating Co., Akron, Ohio.	
Utica Heater Co., Chicago, Ill.	
Wise Furnace Co., Akron, Ohio.	
Wrought Iron Range Co., St. Louis, Mo.	
<b>Horse Shoes.</b>	
American Steel & Wire Co., Chicago, Ill.	
<b>Jobbers—Hardware.</b>	
Bullard & Gormley Co., Chicago, Ill.	
Clark-Smith Hdw. Co., Peoria, Ill.	
<b>Lath—Expanded Metal.</b>	
Milwaukee Corrugating Co., Milwaukee, Wis.	
<b>Lawn Mowers.</b>	
Philadelphia Lawn Mower Co., Philadelphia, Pa.	
<b>Machinery—Universal.</b>	
Bertsch & Co., Cambridge City, Ind.	

<b>Machines—Orimping.</b>	
Bertsch & Co., Cambridge City, Ind.	
Niagara Machine & Tool Wks., Buffalo, N. Y.	
<b>Machines—Razor Blades.</b>	
Hyfield Mfg. Co., New York, N. Y.	
<b>Machines—Stove Pipe.</b>	
Hemp & Co., St. Louis, Mo.	
<b>Machines—Tinsmith.</b>	
Bertsch & Co., Cambridge City, Ind.	
Dreis & Krump Mfg. Co., Chicago, Ill.	
Hemp & Co., St. Louis, Mo.	
Knoedler, Frederick J., Philadelphia, Pa.	
Machine Appliance Corp., Brooklyn, N. Y.	
Niagara Machine & Tool Wks., Buffalo, N. Y.	
<b>Meat Smokers.</b>	
Chatsworth Mfg. Co., Chatsworth, Ill.	
<b>Metals—Perforated.</b>	
Harrington & King Perforating Co., Chicago, Ill.	
<b>Miters.</b>	
Friedley-Voshardt Co., Chicago, Ill.	
<b>Mop Sticks.</b>	
Stover Mfg. & Engine Co., Freeport, Ill.	
<b>Motorcycles.</b>	
Johnson's Arms & Cycle Works, Iver, Fitchburg, Mass.	
<b>Nails—Slating.</b>	
Hussey & Co., C. G., Pittsburgh, Pa.	
<b>Nails—Wire.</b>	
American Steel & Wire Co., Chicago, Ill.	
Pittsburgh Steel Co., Pittsburgh, Pa.	
<b>Ornaments—Sheet Metal.</b>	
Friedley-Voshardt Co., Chicago, Ill.	
<b>Patterns—Furnace.</b>	
Auer Register Co., Cleveland, Ohio.	
<b>Patterns—Stove.</b>	
Cleveland Castings Pattern Co., Cleveland, Ohio.	
Cope-Swift Co., Inc., Detroit, Mich.	
Quincy Pattern Co., Quincy, Ill.	
Vedder Pattern Works, Troy, N. Y.	
<b>Pipe—Conductor.</b>	
Dieckmann Co., Ferdinand, Cincinnati, Ohio.	
<b>Pipes and Fittings—Furnace.</b>	
Haynes-Langenberg Mfg. Co., St. Louis, Mo.	
Henry-Miller Fdy. Co., Cleveland, Ohio.	
Meyer & Bro. Co., F., Peoria, Ill.	
Michigan Safety Furnace Pipe Co., Detroit, Mich.	
Safety Interlocking Stove Pipe Co., Mt. Pleasant, Iowa.	
Standard Furnace & Supply Co., Omaha, Neb.	
Stearns Register Co., Detroit, Mich.	
<b>Pipe and Fittings—Stove.</b>	
Hemp & Co., St. Louis, Mo.	
Meyer & Bro. Co., F., Peoria, Ill.	
Michigan Safety Furnace Pipe Co., Detroit, Mich.	
Safety Interlocking Stove Pipe Co., Mt. Pleasant, Iowa.	
Sullivan-Geiger Co., Indianapolis, Ind.	
Whitaker-Glessner Co., Wheeling, W. Va.	

**Pipe—Conductor.**

Berger Bros. Co., Philadelphia, Pa.  
 Burton Co., W. J., Detroit, Mich.  
 Clark-Smith Hdw. Co., Peoria, Ill.  
 Friedley-Voshardt Co., Chicago, Ill.  
 Hussey & Co., C. O., Pittsburgh, Pa.  
 Whitaker-Glessner Co., Wheeling, W. Va.

**Polish—Metal.**

Black Silk Stove Polish Wks., Sterling, Ill.

**Polish—Stove.**

Black Silk Stove Polish Wks., Sterling, Ill.

**Plumbs and Levels.**

Stanley Rule & Level Co., New Britain, Conn.

**Posts—Steel Fence.**

American Steel & Wire Co., Chicago, Ill.

**Punches.**

Bertsch & Co., Cambridge City, Ind.  
 Niagara Machine & Tool Wks., Buffalo, N. Y.

Ranges—Combination Gas and Coal.  
 Ringen Stove Co., St. Louis, Mo.

**Ranges—Gas.**

Dangler Stove Co., Cleveland, Ohio

**Rasps.**

Delta File Wks., Philadelphia, Pa.  
 Heller Bros. Co., Newark, N. J.

**Register Shields.**

Hall-Neal Furnace Co., Indianapolis, Ind.

**Registers—Warm Air.**

Auer Register Co., Cleveland, Ohio.  
 Columbian Hardware Co., Cleveland, Ohio.  
 Hart & Cooley Co., New Britain, Conn.  
 Henry-Miller Foundry Co., Cleveland, Ohio.  
 Independent Reg. & Mfg. Co., Cleveland, Ohio.  
 Standard Furnace & Supply Co., Omaha, Neb.  
 Stearns Register Co., Detroit, Mich.  
 Tuttle & Bailey Mfg. Co., Chicago, Ill.  
 Walworth Run Fdy. Co., Cleveland, Ohio.

**Repairs—Furnace.**

Central Stove & Furnace Repair Co., Chicago, Ill.  
 National Stove Repair Co., Miamisburg, Ohio.  
 Northwestern Stove Repair Co., Chicago, Ill.  
 Omaha Stove Repair Works, Omaha, Neb.

**Repairs—Stove & Furnace.**

Central Stove & Furnace Repair Co., Chicago, Ill.  
 National Stove Repair Co., Miamisburg, Ohio.  
 Northwestern Stove Repair Co., Chicago, Ill.  
 Omaha Stove Repair Works, Omaha, Neb.

**Revolvers.**

Johnson's Arms & Cycle Works, Fitchburg, Mass.

**Rivets—Stove.**

Kirk-Latty Mfg. Co., Cleveland, Ohio.

**Roasters.**

Omaha Stove Repair Works, Chicago, Ill.  
 Whitaker-Glessner Co., Wheeling, W. Va.

**Rolls—Forming.**

Bertsch & Co., Cambridge City, Ind.  
 Niagara Machine & Tool Works, Buffalo, N. Y.

**Roofing—Iron and Steel.**

American Sheet & Tin Plate Co., Pittsburgh, Pa.  
 Brier Hill Steel Co., Youngstown, Ohio.  
 Burton Co., W. J., Detroit, Mich.  
 Cortright Metal Roofing Co., Philadelphia, Pa.  
 Friedley-Voshardt Co., Chicago, Ill.  
 Milwaukee Corrugating Co., Milwaukee, Wis.  
 Stark Rolling Mill Co., Canton, Ohio.  
 Whitaker-Glessner Co., Wheeling, W. Va.

**Rubbish Burners.**

Hart & Cooley Co., New Britain, Conn.

**Rules.**

Lufkin Rule Co., Saginaw, Mich.

**Sash Balances.**

Caldwell Mfg. Co., Rochester, N. Y.

**Saws.**

Atkins & Co., E. C., Indianapolis, Ind.

Schools—Sheet Metal Pattern Drafting.  
 St. Louis Technical Institute, St. Louis, Mo.

**Screens—Perforated Metal.**

Harrington & King Perforating Co., Chicago, Ill.

**Sheets—Black and Galvanized.**

American Sheet & Tin Plate Co., Pittsburgh, Pa.

Brier Hill Steel Co., Youngstown, Ohio.

Knoedler, Frederick J., Philadelphia, Pa.

Ryerson & Son, Joseph T., Chicago, Ill.

Stark Rolling Mill Co., Canton, Ohio.

Whitaker-Glessner Co., Wheeling, W. Va.

**Sheets—Blue Annealed.**

Brier Hill Steel Co., Youngstown, Ohio.

**Shotguns.**

Johnson's Arms & Cycle Works, Fitchburg, Mass.

**Sheets—Tongue Metal.**

Stark Rolling Mill Co., Canton, Ohio.

**Skylights.**

Burton Co., W. J., Detroit, Mich.

**Snips—Tin-Smiths'.**

Niagara Machine & Tool Works, Buffalo, N. Y.

**Solder.**

Allen Co., Inc., L. B., Chicago, Ill.

**Soldering Fluid.**

Allen Co., L. B., Chicago, Ill.

**Soldering—Furnaces.**

Ashton Mfg. Co., Newark, New Jersey

Burgess Soldering Furnace Co., Columbus, Ohio.

Clayton & Lambert Mfg. Co., Detroit, Mich.

Hones, Inc., Chas. A., Brooklyn, N. Y.

Ringin Stove Co., St. Louis, Mo.

Turner Brass Works, Sycamore, Ill.

**Specialties—Hardware.**

Atkins & Co., E. C., Indianapolis, Ind.

Caldwell Mfg. Co., Rochester, N. Y.

Delta File Wks., Philadelphia, Pa.

Heller Bros. Co., Newark, N. J.

Hyfield Mfg. Co., New York, N. Y.

Lovell Mfg. Co., Erie, Pa.

Lufkin Rule Co., Saginaw, Mich.

Stanley Rule & Level Co., New Britain, Conn.

Stover Mfg. & Engine Co., Freeport, Ill.

Wellston Mfg. Co., Wellston, Ohio

**Specialties—Sheet Metal.**

Chatsworth Mfg. Co., Chatsworth, Ill.

**Statuary.**

Friedley-Voshardt Co., Chicago, Ill.

**Sticks—Soldering.**

Allen Co., Inc., L. B., Chicago, Ill.

**Stock Waterers.**

Rock Island Mfg. Co., Rock Island, Ill.

Stoves—Gasoline and Kerosene.  
 Dangler Stove Co., Cleveland, Ohio

Ringin Stove Co., St. Louis, Mo.

**Stoves and Ranges.**

Dangler Stove Co., Cleveland, Ohio

Danville Stove & Mfg. Co., Danville, Pa.

Monitor Stove Co., Cincinnati, Ohio.

Ringin Stove Co., St. Louis, Mo.

Schill Bros. Co., Crestline, Ohio.

**Stove Pipe Reducer.**

Sullivan-Geiger Co., Indianapolis, Ind.

**Tacks, Staples, Spikes.**

American Steel & Wire Co., Chicago, Ill.

**Tapes.**

Lufkin Rule Co., Saginaw, Mich.

**Tiles and Shingles—Metal.**

Burton Co., W. J., Detroit, Mich.

Cortright Metal Roofing Co., Philadelphia, Pa.

Milwaukee Corrugating Co., Milwaukee, Wis.

Whitaker-Glessner Co., Wheeling, W. Va.

**Tin—Perforated.**

Harrington & King Perforating Co., Chicago, Ill.

**Tinplate.**

American Sheet & Tin Plate Co., Pittsburgh, Pa.

Knoedler, Frederick J., Philadelphia, Pa.

Whitaker-Glessner Co., Wheeling, W. Va.

**Tools—Carpenters'.**

Atkins & Co., E. C., Indianapolis, Ind.

Lufkin Rule Co., Saginaw, Mich.

Stanley Rule & Level Co., New Britain, Conn.

**Tools—Sheet Metal.**

Bertsch & Co., Cambridge City, Ind.

Dreis & Krump Mfg. Co., Chicago, Ill.

Niagara Machine & Tool Works, Buffalo, N. Y.

Machine Appliance Corp., Brooklyn, N. Y.

Ryerson & Son, Joseph T., Chicago, Ill.

Viking Shear Co., Erie, Pa.

**Tools—Tin-Smiths'.**

Bertsch & Co., Cambridge City, Ind.

Dreis & Krump Mfg. Co., Chicago, Ill.

Knoedler, Frederick J., Philadelphia, Pa.

Machine Appliance Corp., Brooklyn, N. Y.

Niagara Machine & Tool Works, Buffalo, N. Y.

Viking Shear Co., Erie, Pa.

**Torches.**

Ashton Mfg. Co., Newark, N. J.

Bernz, Otto, Newark, N. J.

Burgess Soldering Furnace Co., Columbus, Ohio.

Clayton & Lambert Mfg. Co., Detroit, Mich.

Hones, Inc., Chas. A., Brooklyn, N. Y.

Ringin Stove Co., St. Louis, Mo.

Turner Brass Works, Sycamore, Ill.

**Ventilators.**

Berger Bros. Co., Philadelphia, Pa.

Friedley-Voshardt Co., Chicago, Ill.

Standard Ventilator Co., Lewisburg, Pa.

**Ventilators—Ceiling.**

Hart & Cooley Co., New Britain, Conn.

Independent Reg. & Mfg. Co., Cleveland, Ohio.

Tuttle & Bailey Mfg. Co., Chicago, Ill.

**Vises.**

Rock Island Mfg. Co., Rock Island, Ill.

**Waffle Irons.**

Stover Mfg. & Engine Co., Freeport, Ill.

**Water Heaters—Oil Burning.**

Dangler Stove Co., Cleveland, Ohio

**Wire.**

American Steel & Wire Co., Chicago, Ill.

Pittsburgh Steel Co., Pittsburgh, Pa.

**Wood Faces.**

Dover Wood Face & Lbr. Co., Dover, Ohio.

**Wrenches.**

Coes Wrench Co., Worcester, Mass.

**Wringers—Clothes.**

Lovell Mfg. Co., Erie, Pa.

¶ ADVERTISING is the power of an idea multiplied.

¶ Other powers lose by expansion. Steam is power only when confined. Electricity radiated and diffused becomes nothing. Sound dies with distance. Great suns pale into invisible stars, and the power of light itself is lost in infinite space. But the strange power of advertising increases by expansion. Diffusion is its life. It grows by what it imparts.

¶ The advertised idea, to become a power, must be genuine, vital, and related to the function of a meritorious business; and the means of its furtherance must be well chosen.

¶ To choose well the means for the furtherance of *your* advertised idea, in order that it may become a power, in order that you may show its genuineness as a vital factor of your business, is not hard.

¶ A close perusal from cover to cover of this week's issue of AMERICAN ARTISAN AND HARDWARE RECORD will disclose abundant evidence of this fact.

## WANTS AND SALES

For paid yearly subscribers **AMERICAN ARTISAN AND HARDWARE RECORD** will insert under this head advertisements of not more than fifty words **WITHOUT CHARGE**. Employers wishing to secure employes, parties desiring to purchase or sell business, secure partners or to exchange, etc., will find that these pages offer excellent opportunities to satisfy their wants. Clerks and tinsmiths looking for situations will find it to their advantage to use these columns. Those who respond to these announcements please mention that they "READ THE ADVERTISEMENT IN AMERICAN ARTISAN AND HARDWARE RECORD."

## BUSINESS CHANCES

Wanted—Two live and energetic young men looking for good hardware store in the west. Address C. A. Knist, Box 1109, Casper, Wyoming. 24-3t

Wanted to Buy—Shelving or ceiling store ladder. State condition and price. Also hardware shelving. State size, condition and price. John F. Cartwright, Bowling Green, Kentucky. 25-3t

Lightning Rods—Big profits and quick sales to live dealers selling "DIDDLE'S UNIVERSAL RODS." Our copper tests 99.96% pure. Prices are right—get our agency. L. K. Diddle Company, Marshfield, Wisconsin. V78-12-52t

For Sale—Patent on washing machine, Patent No. 1,312,831. This invention relates to an improved washing machine and is simple in construction. For further particulars address Clida Chapman, 711 N. Star St., Eldorado, Kansas. 26-3t

For Sale—Patent on furnace casing which will prevent any loss of heat by radiation. This is no experiment but has stood a most severe test for four winters and is a real success. Address for further particulars to M. L. Fox, COLUMBIANVILLE, Michigan. 25-3t

For Sale—Live hardware business in beautiful southern Wisconsin city of 2,000. Good farming and manufacturing center. Sickness cause of selling. Address A-5, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 25-3t

For Sale—Hardware, stoves and farm implements. The best paying business in Lincoln, Illinois. Will sell for cash or trade for a good central Illinois farm. Act quickly. The only reason for selling is ill health. Call or write. Fred Reinhardt, Box 97, Lincoln, Illinois. 26-3t

For Sale—On account of my health I offer my plumbing, heating and sheet metal business for sale. A snap for some hustler. Lots of work. New sewer in Spring. If interested write at once. Will give terms on part of same. Address M. V. Secor, Buffalo Center, Iowa. 24-3t

For Sale—Sixty feet of Warren combination hardware fixtures, sixty feet shelving, show cases, office fixtures, six drawer National Cash Register, 500 account Champion fireproof account cabinet, gun cases and tinner's tools. G. H. Mundt and Company, Austin, Minnesota. 25-3t

For Sale—Hardware store. Sheet metal shop in connection. A splendid opportunity for a live man. Reason for selling, wish to go to warmer climate. For particulars address A-8, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 25-3t

For Sale—One of the best going furnace business in Indiana. Own trade-mark line. Cover three counties. Nine-room modern residence, large shop and warehouse. Fine going trade. Investigate this at once. For particulars address A-1, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 24-3t

## HELP WANTED

Wanted—Pump, windmill and machine man who can help tinner and plumber. State salary and qualifications in first letter. Wood and Bailey, Winfield, Iowa. 23-4t

Wanted—A first-class tinner and furnace man, one who understands blow piping preferred. State wages expected for steady job. E. A. Schmidt, Grand Rapids, Wisconsin. 25-3t

Wanted—A partner in hardware and tinshop, one who can handle tinshop and do furnace work. Write for further particulars to J. K. Cunningham and Company, Monon, Indiana. 25-3t

Wanted—Tinner for bench work. Accustomed to work on copper. Must be neat workmen. Steady work and good wages. Address Charles Skidd Manufacturing Company, Jamesville, Wisconsin. 24-3t

Wanted—First-class hot-air furnace salesmen. State experience and territory. Please address A-3, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 24-3t

Wanted—Tinner or men with experience on heavy soldering. Steady work in modern shop. Good wages for right man. Open shop. No labor trouble. Apply Frank Chadima, General Superintendent, J. G. Cherry Company, Cedar Rapids, Iowa. 25-10t

Wanted—Combination plumber and furnace man to take charge of plumbing and heating department of large hardware store in Nebraska town of about 5,000. Kindly address replies to C-98, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 23-4t

Wanted—A business manager covering everything except the manufacturing end of a good live going warm air heater business. Scope to cover buying, selling and general run of business. Advise stating age, experience, present employer, reference and salary expected. Address A-7, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 26-1t

Wanted—An experienced farm implement salesman capable of selling all kinds of farm implements, gas engines, tractors and some hardware, and field seeds. Also want additional man who understands implement business, one who is a good book-keeper. Then too we can give employment to an experienced hardware salesman who understands the paint and glass trade, house furnishing goods and tools. Each party applying please give their name, whether married or single, salary expected and references. Address J. Ed. Guenther, President, Guenther Hardware Company, Incorporated, Owensboro, Kentucky. 24-3t

## SITUATION WANTED.

Wanted—Steady work for a plumber. A. E. Browder, Albion, Nebraska. 26-3t

Situation Wanted—Have a practical knowledge of sheet metal products in all its details. Have had ten years' experience on the road as salesman. Will consider proposition for 1920 as traveling salesman. Address J. M. Reed, Albion, Indiana. 25-3t

Situation Wanted—By first-class all around stove and range salesman. Am well acquainted with trade in Missouri, Arkansas, Kentucky and Tennessee. Best of references, etc. Kindly address A-6, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 26-3t

Wanted—Position as manager and buyer in some good hardware firm in Nebraska, Kansas or Colorado. Have had 25 years' experience. Thoroughly understand warm air furnaces, plumbing, hot water and steam heating. Please address replies to A-2, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 24-3t

Situation wanted by an A-1 tinner and furnace man and all round mechanic. Can also get out patterns. Am 30 years old and married. Can use brains as well as tools. Only steady job considered in or near Omaha, Nebraska. A one-man hardware shop preferred. Address A-8, AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 25-3t

## SITUATION WANTED

Situation Wanted—By tinner, plumber and furnace man. Am 36 years of age and have had 25 years' experience. Also understand hardware. Am a first-class mechanic. I can take charge of shop and estimate all jobs. South Dakota preferred. Only steady job considered. When answering please state what best wages you are offering. I can furnish best of references. Lee Baile, Vermillion, South Dakota. 24-3t

## TINNERS' TOOLS

Wanted to Buy—One 37½x8 second hand bench plate. Must be in good shape. Send cost of same to Box 1132, Jamestown, North Dakota. 25-3t

For Sale—Good outfit of tinner's tools suitable for general work. In good condition. Sell complete only. Newman Hardware Company, Columbia, Missouri. 25-3t

Wanted—One Wrights stove pipe folder, one forming and crimping machine, one Columbian elbow edging machine, mandrel and one tinner's fire pot. All must be in good condition. Address Sam Langen, Estherville, Iowa. 25-3t

For Sale—Set of tinner's tools, square shears, formers, three folders, turning, burring, crimping and heading, mandrel, 2 square heads, bench shears, and a few hand tools. All in good condition. Some are new. \$100.00 for the lot. M. V. Secor, Buffalo Center, Iowa. 24-3t

For Sale—One set tinner's tools and tinshop stock invoicing at about \$1,800. This tinshop is operated in connection with a hardware store and the owner needs the room and time to use in other business. Please address replies to A-1, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 25-3t

Wanted at Once—In first-class condition the following items for which cash will be paid:

- 1 Folding Machine.
  - 1 Set 30 inch rolls.
  - 1 Turning machine.
  - 1 Burring machine.
  - 1 Wiring machine.
  - 1 Stake.
  - 1 Beachhorn.
  - 1 Hollow mandrel.
  - 1 Conductor.
  - 1 Small square.
  - 1 Hatchet.
  - 1 Candle hold.
  - 1 Bench plate.
  - 2 Machinists' Vises, 3 inch jaws, solid base.
  - 8 Soldering coppers, 1½ lbs.
  - 3 Gas furnaces.
  - 3 Plumbing ladders.
  - 6 Snips No. 9.
  - 3 Plumbers' scrapers No. 12.
  - 6 Riveting hammers No. 3.
  - 2 Grooving tools No. 0, 2, 4, each.
  - 2 Solid punches, No. 2, 5, 7, each.
  - 2 Rivet sets and Headers No. 0, 3, 5, each.
  - 4 Prick Punches.
  - 2 Cold chisels, one inch.
  - 2 Pair pliers, 8 inch, No. 240.
  - 1 Pair pliers, 6 inch, No. 25.
  - 1 Pair gas pliers, 10 inch, No. 13.
  - 6 Scratch awls, No. 01.
  - 3 Wing dindles, 6 inch, No. 35.
  - 1 Steel square, No. 100.
  - 1 Stillson pipe wrench, 14 inch.
  - 1 Stillson pipe wrench, 18 inch.
  - 1 Monkey wrench, 10 inch.
  - 1 Monkey wrench, 12 inch.
  - 1 Plumbers' furnace.
  - 1 Six inch melting pot.
- Mail your offers to T. L. Hyttinen, 107 Lincoln Avenue, Valparaiso, Indiana. 26-1t

Wanted—Warm Air Heater Installers who are anxious to know more about their trade. Ambition is the only requirement outside of knowledge needed to increase your profits. If you will read Snow's Furnace Heating you will gain much knowledge which will be beneficial to you. This book deals with the different types of furnaces, their construction, proper location and setting together with furnace fittings. It is the standard authority. Contents—Furnaces; House Heating, Combination Systems; Air, Heating and Ventilation of School Buildings; Heating of Public Buildings, Churches and Stores; Fan Furnace Combination System; Temperature Control; Estimates and Contracts; Fuels; Miscellaneous Tables and Data; Furnace Fittings; Miscellaneous Notes, from Various Sources, on Furnace Heating. 234 pages. Price, \$2.50. With AMERICAN ARTISAN one year (52 issues), \$3.85. Order your copy today from Daniel Stern, 620 South Michigan Boulevard, Chicago, Illinois.

### SPECIAL NOTICES

Special Notices are charged at the rate of \$3.00 per inch per insertion

**PATENTS**  
HUBERT E. PECK  
Patent Attorney  
Pacific Building, WASHINGTON, D. C.

### GOOD OPPORTUNITY FOR FURNACE SALESMAN

calling on the Warm Air Heater trade to sell a line of well known registers manufactured by a large and long established firm. Once introduced, always purchased. Guarantee absolutely assured. A good chance for a live-wire to make money. State experience and territory covered. For particulars address D-6, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 23-4t

### WANTED AT ONCE

Warm air furnace installers; only experienced men need apply. The Peninsular Stove Company. Detroit, Michigan. 25 1-t

### FURNACE AND BOILER SALESMAN

Well-known and old established manufacturer of heating apparatus desires high-class representative for Middle Western territory. Only man with some personal following and able to handle jobbing trade will be considered. Address D-10, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 26-u'n

### SPECIAL NOTICES

#### EXPERIENCED FURNACE SALESMAN WANTED

For Western and Eastern States. Furnace Department, The Peerless Foundry Company. Indianapolis, Indiana. 24-U. F. N.

#### EXPERIENCED SALESMEN WANTED

Complete stove, gas and furnace lines. Salary, expense and bonus. Mention experience, territory traveled, etc. Address D-9, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 24-3t

### WANTED

Experienced stove salesman for the States of Wisconsin, Ohio, Iowa and Missouri. State age, salary, etc. Address D-12, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 24-3t

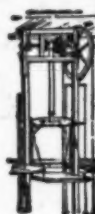
### PATTERNMAKERS

First-class metal men. Hasse-Cline Pattern and Manufacturing Company, 25 East Fort, Detroit, Michigan. 25 1-t

### SPECIAL NOTICES

#### STOVE SALESMAN WANTED

For an old established line in Iowa and Nebraska. One who is acquainted in these states preferred but not necessary. Address D-14, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 25-3t



#### ELEVATORS

Improved, Quick and Easy Rising Steam, Electric and Hand Power

SEND FOR CIRCULAR

#### KIMBALL BROS. CO.

1031 Ninth St., Council Bluffs, Iowa  
Kansas City Office,  
610 Delaware St. Kansas City, Mo.

### C. G. HUSSEY & CO.

Rolling Mills and Office

PITTSBURGH, PA.

MANUFACTURERS

Sheet Copper, Bottoms, Roll Copper, Tinned and Polished Copper, Walls, Spikes, Rivets, Conductor Pipe, Eaves Trough, Elbows, Shoes, Mitres, Etc.

Branch Warehouses in New York, Chicago, St. Louis and San Francisco

### Make Opportunity—Career—Success in 1920

Subscribe to our Modern Pattern Drafting Studies. For the Large City Journeymen Mechanic. For the Country Town Tinner. For the Heating and Ventilating Man. For Automobile Repair Men. There is nothing that equals or touches them in all America or Europe, write returned soldiers.



#### BECOME A HEATING AND VENTILATING ENGINEER

Learn to design the systems you NOW install. We teach you this great profession equal to any college. Step out of the field of hard work into a lighter and more paying profession.

Full information Free—Write tonight—Mentors Bring Promotion.

#### ST. LOUIS TECHNICAL INSTITUTE

Formerly the National School

4367 Enright

O. W. KOTHE, Prin.

St. Louis, Mo.

**"Buck Up"** is a Slang Term but it means a lot. If you should touch

red-hot iron to an English

Butler's Bald Head, he would **"Buck Up."** If a dealer should employ legitimate but ingenious methods in dealing with catalog-house competition, he would **"Buck Up."** If he should advertise in a well known trade-journal, he would be **"Casting His Bread Upon The Waters"**—It Would Come Back—He Would **"Buck Up"**

OUR  
Trade Mark  
YOUR  
Guarantee *F. Dieckmann*

## DIECKMANN Conductor Elbows and Shoes are THE STANDARD OF QUALITY

EVERY Conductor Elbow and Shoe that we make has our Trade Mark, *F. Dieckmann*, stamped in the metal on the back

of it. It means much to you. It is a guarantee that every such stamped Elbow or Shoe will give the very best and longest wear. For your own and your customers' benefit, you should specify the **DIECKMANN Trade Mark** on the Elbows and Shoes that you order from your jobber.

**R**IGHT now when building activities are sure to bring you business, you will find it profitable to have a stock of **DIECKMANN CONDUCTOR ELBOWS AND SHOES ON HAND.**

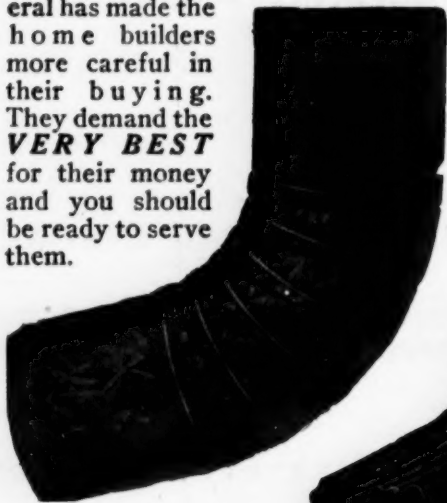
The high cost of building materials in general has made the home builders more careful in their buying. They demand the **VERY BEST** for their money and you should be ready to serve them.



NOTE REINFORCED BAND ON OUR SHOE

**Many Sizes, Styles, Angles and Gauges.**

**N**O matter what your requirements may be in **QUALITY** Conductor Elbows and Shoes, they can be filled by **DIECKMANN ELBOWS AND SHOES.** They are made of one piece of material and have no seams. The crimps are on the body, leaving the inside and back perfectly smooth, which insures a perfect flow.



### DIECKMANN ELBOWS and SHOES

are the result of many years' experience. Only the best materials and skilled labor are employed in their manufacture and our works are equipped with highest type of machinery. All jobbers have **DIECKMANN ELBOWS AND SHOES**, or can get them for you.

*Write today for Our Latest Catalog.*

**THE FERDINAND DIECKMANN COMPANY**  
P. O. Station B Cincinnati, Ohio



Arlington  
Building,  
Washington,  
D. C.

Architects—  
Wyatt and Nolting,  
Kayser Building,  
Baltimore.

## 1400 Window Frames of



Architects and builders everywhere are getting away from the idea that ordinary sheet metal is good enough for their buildings.

Home-owners too are saying—"I want something that will last longer" and *you* can give it to them.

For new work or repair work, for eaves trough, conductor pipe, roofing, siding, tanks, and every severe sheet metal service, give them Toncan Metal.

It will mean satisfaction for them and bigger business for you.

If you don't have our sheet metal book T-42 write at once for your copy and the name of your nearest Toncan Metal Jobber.

**The Stark Rolling Mill Co.**  
Canton, Ohio

# The BRIER HILL STEEL CO.

PRODUCERS OF

**BASIC and BESSEMER PIG IRON**

LOW PHOSPHORUS PIG IRON—Guaranteed .04 Phos. and Under  
WASHED METAL—Guaranteed as low as .02 Phos. and Under.

**SHEARED PLATES**

TANK, FLANGE, MARINE, FIREBOX, STILLBOTTOM, SHIP, ETC., 1/64" to 2" THICK

**BASIC OPEN HEARTH STEEL**

INGOTS—BLOOMS—BILLETS—SLABS—SHEET AND TIN BAR HIGH GRADE FORGING AND RE-ROLLING STEEL

**SHEETS**

BLUE ANNEALED 1/4" to 16 GAUGE—UP TO 72" WIDE  
BLACK AND GALVANIZED—10 TO 30 GAUGE—UP to 54" WIDE  
AUTOMOBILE FURNITURE, DEEP DRAWING STOCK, ETC.  
FORMED ROOFING AND SIDING

**FLAT ROLLED STEEL 1/80" TO 2" THICK**  
ANNUAL CAPACITY 600,000 TONS

MAIN WORKS AND GENERAL OFFICES

## YOUNGSTOWN, OHIO

Write today to our nearest office for our complete literature and prices

## DISTRICT OFFICES

New York  
San Francisco

Chicago  
El Paso

Cleveland  
San Antonio

Philadelphia  
Fort Worth

Kansas City  
New Orleans

Lynchburg  
Salt Lake City

EXPORT AGENTS—CONSOLIDATED STEEL CORPORATION, NEW YORK CITY

### YOUR CUSTOMER WANTS TIN PLATE OF KNOWN QUALITY IN HIS ROOF

HE knows a roof does either of two things,—it merely *covers* or it absolutely *protects* his property investment.

Anonymous material does not assure him of full value of his dollars. Whitaker I. C. Old Style roofing plate does.

**WHITAKER-GLESSNER COMPANY**  
WHEELING CORRUGATING DEPARTMENT  
WHEELING, W. VA.

New York  
Kansas City

Chicago  
Minneapolis

Philadelphia  
St. Louis

Cincinnati  
Richmond

NAME, WEIGHT AND COATING STAMPED ON EVERY SHEET



## CORTRIGHT METAL SHINGLES

### Put on Roofs That Advertise You

Of course Cortright Metal Shingles are different in appearance from other roofing—and everybody in the town will know that you put the roof on if your sign says that you are the Cortright roofer—and pretty soon you'll be so busy that you will need more help. Roofers all over are finding how Cortright Metal Shingles advertise their business and swell profits.

You would probably find some helpful roofing hints in our book "Concerning That Roof." Your name and address on a post card will bring it.



**CORTRIGHT METAL ROOFING CO.**  
Philadelphia — Chicago

## Everything the Tinner Needs

*We carry a complete stock of all the usual lines*

Roofing tin Sheet copper  
Bright tin Rivets, Bolts  
Registers Solder Sheet zinc  
Galvanized & Black sheets

And many lines that are not usually stocked

*Specialists in Tinner's Tools  
and Machines*

Full assortment of New Machinery  
Well-assorted stock of Used Machines

**FREDERICK J. KNOEDLER**

MANUFACTURER AND DEALER IN

TIN PLATE, SHEET IRON, METALS, TINNERS' TOOLS  
AND MACHINERY TINNERS' SUPPLIES

68 NORTH SECOND STREET

PHILADELPHIA, PA.

## STEEL CEILINGS SIDE WALLS AND CORNICES

Only first quality material used.  
Many neat designs of character.

*Write today for our complete cata-  
log giving descriptions and prices.*

**THE W. J. BURTON CO.**

Junction Ave. and Federal St. and  
436 Penobscot Bldg. Detroit, Michigan

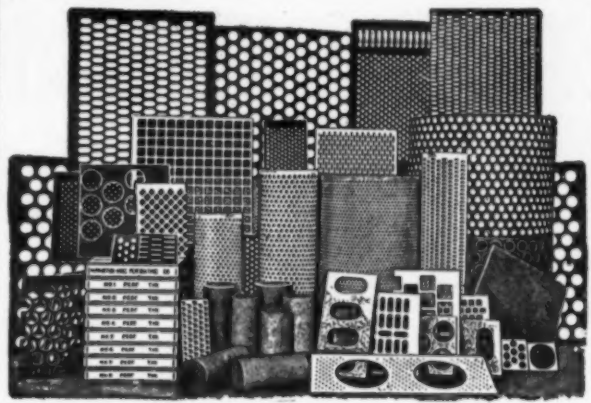


### NEW ROTATABLE STANDARD VENTILATORS AND CHIMNEY CAPS

A combination that has no equal for chimney purposes; positively cure down draft, obviate the necessity for high stacks and are ornamental. For sale by all jobbers.

*Ask for circular and discounts.*

Manufactured by  
**STANDARD VENTILATOR CO., Lewisburg, Pa.**



## PERFORATED METALS

OF EVERY DESCRIPTION  
MANUFACTURERS OF

PERFORATED STEEL PLATES AND SHEETS  
(Black and Galvanized)

Perforated Sheet Copper, Brass, Bronze,  
Aluminum, Lead, Zinc, Monel Metal  
and Other Alloys

Screens Plates and Sheets

for Ores, Coal, Stone, Cement, and all kinds of

**Grain Cleaning and Sorting Apparatus,**

for Centrifugal Linings, Filter Press Plates, Drying Floors,  
False Bottom Strainers, Extractor Baskets, Revolving  
Screens, Shaking Screens, Chute Screens.

Grilles and Ornamental Screens,

for Radiators, Ventilators, Air Vents, Heat Vents, in Private  
and Public Buildings, made to suit local requirements.

**PERFORATED TIN AND BRASS IN STANDARD SIZES**

carried in stock

**ANYTHING IN PERFORATED METAL**

**THE HARRINGTON & KING PERFORATING CO.**

610 NORTH UNION ST.—CHICAGO, ILL. U. S. A.  
NEW YORK OFFICE: 114 LIBERTY ST.

## QUALITY & BEAUTY IN ART METAL CEILINGS AND SIDE WALLS

**QUALITY**—only first quality material is used in  
making **FRIEDLEY - VOSHARDT ART METAL**  
CEILINGS AND SIDE WALLS.

**BEAUTY**—is necessary for the **complete** and **last-  
ing** satisfaction of your customers.

Having one of the finest equipped sheet metal plants  
in the country and employing only skilled workers en-  
ables us to serve you with **QUALITY** goods having  
the **BEST DESIGNS**.

**WRITE TODAY FOR CATALOG No. 33**

**FRIEDLEY - VOSHARDT CO.**

OFFICE

733-737 S. Halsted St.

FACTORY

761-771 Mather St.

CHICAGO, ILLINOIS

3

*Galvanized Ear Trough and Corrugated Expanding Conductors*

*made of  
Keystone  
copper bearing  
Steel*

**Clark-Smith Hdw. Co.**

Peoria Ill.

*Costs no more  
lasts longer  
Therefore Cheapest*

*Durability—Service—Satisfaction*

# APOLLO-KEYSTONE

COPPER STEEL  
Galvanized

# Sheets



Highest in quality and rust resistance. Unequaled for Culverts, Flumes, Tanks, Roofing, Siding, Spouting, and all exposed sheet metal work.

We manufacture Sheet and Tin Mill Products of every description—Black and Galvanized Sheets, Corrugated and Formed Products, Roofing Tin Plates, Etc.

AMERICAN SHEET AND TIN PLATE COMPANY, Pittsburgh, Pa.

## EARLE'S IMPROVED REVOLVING VENTILATOR



Runs in a self lubricating bearing that is not affected by heat or cold, and never requires any oil or grease. The fan revolves without any noise, producing a current of air upward, which positively prevents any downdraft.

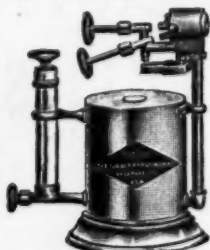
Write for circular

### BERGER BROS. COMPANY

TIN PLATE, SHEET IRON, Etc.

Office: 229-231 Arch Street Store: 237 Arch Street  
Warehouses and Factory: 100-114 Broad Street, PHILADELPHIA, PENNSYLVANIA

## TURNER DOUBLE JET TORCHES



No. 92 DOUBLE JET GASOLINE TORCH

*Produce more heat than any other torches made*

Before you purchase a torch you should know all about TURNER DOUBLE JET TORCHES. They are radically different from all others. The adjustment is simple and they are easily regulated. The No. 92 shown herewith has a tank made of heavy gauge brass. The burner is of TURNER bronze burner metal. The No. 92 is a very good model for all general work. If you are in need of a good torch you will make no mistake in buying a TURNER DOUBLE JET. We have made a specialty of manufacturing TURNER TORCHES for many years and we guarantee them to be entirely satisfactory. Jobbers supply at factory price.

Write today for our complete catalog No. 4

### THE TURNER BRASS WORKS

SYCAMORE, ILLINOIS

**ALLEN FLUX**  
NON-ACID—FOR SOLDERING

For quick, strong, smooth joints—any metal to any metal—use Allen Flux.

Send for free samples.

A Soldered Joint is no stronger than its Flux.

Order it from your supply house

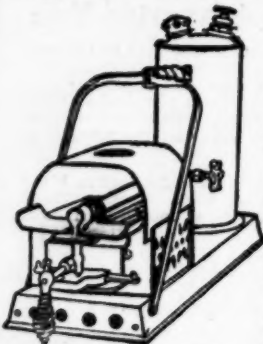
L. B. ALLEN CO., Inc.

4555 North Lincoln Street

CHICAGO

at it  
since  
'93

## Improved Models of Soldering Furnaces



Have you seen the improved models? The greatest line of Soldering Furnaces today on the market. They should be. There is more experience behind them. Forty-eight years of it! The Gems were popular before the majority of present day furnaces were heard of. It is the oldest, the recognized standard Soldering Furnace today.

Look these models over. Each leads its class. Line them up and take your choice.

Improved No. 3 Gem with pump. Do you want a Catalog?

**BURGESS SOLDERING FURNACE CO.**

DEPARTMENT A

COLUMBUS, OHIO

## "RED-HOT"



No. 61 Red-Hot Fire Pot

That is the Trade Mark that represents Quality, Efficiency and Durability, and when you purchase a Red-Hot Fire Pot or Torch you receive full value for your money and the best that Mechanical Skill can produce. We make a large and varied line suited for all classes of trade, and guarantee them to give perfect satisfaction. The No. 61 shown herewith is our most popular Steel Tank Coil Fire Pot, strong and durable and will outwear several of the ordinary kind. Order a No. 61. You will be pleased and satisfied. Jobbers will supply at factory prices.

Ask for free catalog.

**ASHTON MFG. CO.**

NEWARK, N. J.

U. S. A.



No. 1 Fire Pot—List Price Each \$27.20. Ask for Discount

## HAVE YOU TRIED THE No. 1 FIRE POT?

It is conceded by all up-to-date mechanics to be the best general utility Fire Pot ever made. It is made by experts, skilled in the line, from the best material money can buy. It is supplied with our patented automatic brass pump with double springs, which is very superior to any single spring pump. The No. 1 is a fuel saver. Try it and be a satisfied user. Jobbers supply at factory price. Send for catalog—it's free.

**CLAYTON & LAMBERT MFG. CO.**

DETROIT, MICH., U. S. A.

## Peerless Eaves Trough Hanger



Made from two pieces of Galvanized Steel. It will pay you to send for sample and prices.

Abbott Mfg. Co., 4700 Central Ave., Cleveland, Ohio

*Remember this one fact—Anything of intrinsic merit can be successfully advertised.*



## "Hottest Built Without a Blower"

**BUZZER**—Automatic Blast Gas Soldering Furnaces and Soft Metal Furnaces.

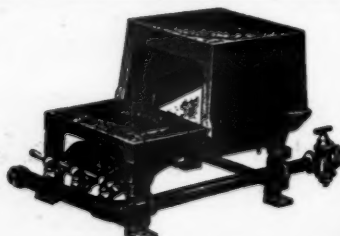
Will heat a pair of 14 lb. Coppers in 7 Minutes.

Pay for themselves in saving of Gas, Soldering Coppers and time.

SENT ON 10 DAYS TRIAL—WRITE FOR CATALOGUE.

**Charles A. Hones, Inc.**

93 Noble Street,  
BROOKLYN, N. Y.



# HAPPY DAYS

For **1920—**

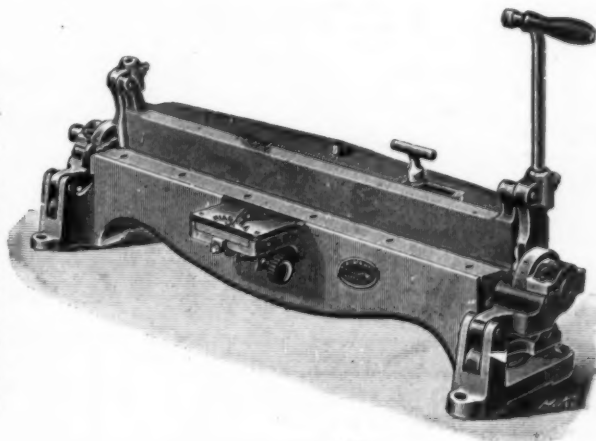
**G**REETINGS to you. May prosperity and plenty be yours in the ensuing year. Likewise, may cheerfulness and joy meet you at every turn. In short, we wish you a

# HAPPY NEW YEAR

**I**F indications count for anything, we can see before all a New Year of business opportunities. We trust that your share of the joy and happiness of the year 1920 may exceed your expectations.

## **"Niagara" Keystone Adjustable Bar Folder**

For bending the edges of light sheet metal at various angles to form locks, square joints, etc. It also forms rounded edges ready for inserting a wire. The edge of the sheet is clamped while the bending takes place and a fold of uniform width the entire length is obtained.



**NIAGARA MACHINE & TOOL WORKS**  
**BUFFALO, NEW YORK**

*Manufacturers of Tools for Sheet Metals*



**A Necessity for Every Shop**

The SAMSON No. 3 BENCH PUNCH, with a powerful leverage of 24 to 1, is intended for work beyond the capacity of the Samson Hand Punch and will punch holes from  $\frac{1}{8}$  to  $\frac{3}{8}$  inch in soft metal up to 12 gauge.

Extra sets of punches and dies, size  $\frac{1}{8}$ , 3-16,  $\frac{1}{4}$ , 5-16 and  $\frac{3}{8}$  inch, easily inserted and removed.

Has detachable tubular handle and weighs only 20 pounds.

THESE are the POINTS that SELL Samson Punches. Catalogue showing our complete line on request.

Price \$12.50 Delivered.  
Extra Punches and Dies \$1.00 per set.

### A Necessity for Every Shop

The SAMSON No. 3 BENCH PUNCH, with a powerful leverage of 24 to 1, is intended for work beyond the capacity of the Samson Hand Punch and will punch holes from  $\frac{1}{8}$  to  $\frac{3}{8}$  inch in soft metal up to 12 gauge.

Extra sets of punches and dies, size  $\frac{1}{8}$ , 3-16,  $\frac{1}{4}$ , 5-16 and  $\frac{3}{8}$  inch, easily inserted and removed.

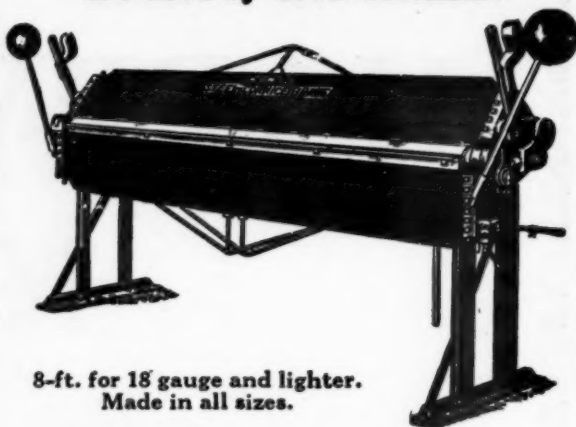
Has detachable tubular handle and weighs only 20 pounds.

THESE are the POINTS that SELL Samson Punches. Catalogue showing our complete line on request.

### MACHINE APPLIANCE CORPORATION

351 Jay Street, Brooklyn, N. Y.

### GOOD REASONS WHY CHICAGO STEEL CORNICE BRAKES are used by Good Tinsmiths



This brake has a patented construction — heavy steel plates arranged so that the strain is directly on the edge. Steel Castings are used where there is a strain. Special steel edges protect the upper jaw and apron from abuse. A perfectly balanced construction assures rapid and easy operation.

Our new catalog No. 15, showing the different styles and sizes, will be sent at your request.

Write Today

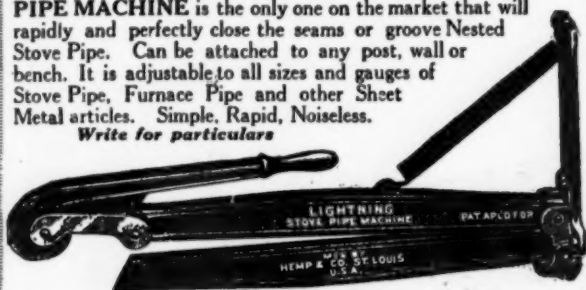
### DREIS & KRUMP MFG. CO.

2915 S. Halsted Street, CHICAGO

### LIGHTNING STOVE PIPE MACHINES

Save time, money and labor. The LIGHTNING STOVE PIPE MACHINE is the only one on the market that will rapidly and perfectly close the seams or groove Nested Stove Pipe. Can be attached to any post, wall or bench. It is adjustable to all sizes and gauges of Stove Pipe, Furnace Pipe and other Sheet Metal articles. Simple, Rapid, Noiseless.

Write for particulars

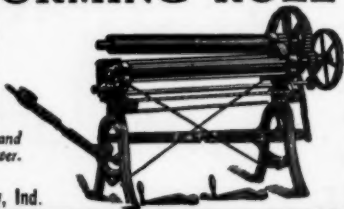


### 50-INCH FORMING ROLL

This Forming Roll is built in all standard sizes, with our Patented Opening Device by means of which it is opened and closed in a few seconds.

We build a complete line of Shears and Punches, all sizes, for hand or belt power.

Write for Catalog "F"  
**BERTSCH & CO., Cambridge City, Ind.**



**ADVERTISING PULLS.**—"If there is one thing on earth that a quitter should leave severely alone, it is advertising," says John Wanamaker. "To make a success of advertising one must be prepared to stick to it like a barnacle on a boat's bottom. Advertising doesn't jerk; it pulls. It begins very gently at first, but the pull is steady. It is likened to a team pulling a heavy load. A thousand spasmodic, jerky pulls will not budge that load, while one-half the power in steady effort will start it and keep it moving."

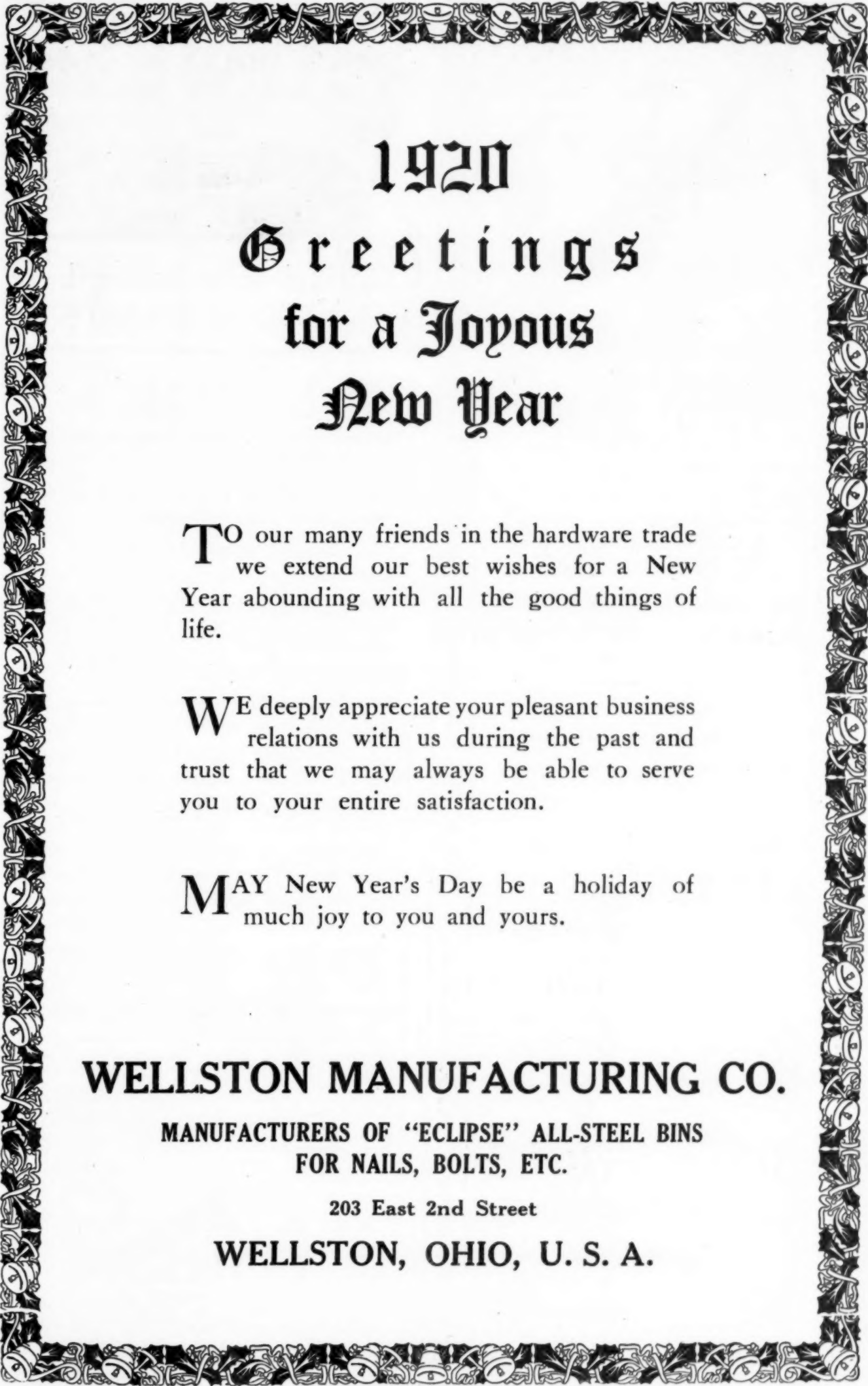


### VIKING SHEAR

Compound LEVER Handle.—Removable Blades

A child can work them

**VIKING SHEAR CO., ERIE, PA.**



# 1920 Greetings for a Joyous New Year

TO our many friends in the hardware trade we extend our best wishes for a New Year abounding with all the good things of life.

WE deeply appreciate your pleasant business relations with us during the past and trust that we may always be able to serve you to your entire satisfaction.

MAY New Year's Day be a holiday of much joy to you and yours.

**WELLSTON MANUFACTURING CO.**

MANUFACTURERS OF "ECLIPSE" ALL-STEEL BINS  
FOR NAILS, BOLTS, ETC.

203 East 2nd Street

WELLSTON, OHIO, U. S. A.



*To The Trade—*

## A Happy New Year

**A**T the entrance of a New Year business pauses and we take this opportune time to thank our customers and friends for the kind feelings and good will shown us the past year. We heartily wish you all a New Year of happiness and prosperity.

**W**E greet you at the starting point of a year fraught with opportunities. And we hope that your share of the fruits yielded by the nation's harmonious activities may bring you contentment and joy.

### LOVELL MFG. CO.

**Erie, Penna.**

*The Largest Manufacturers of  
Clothes Wringers in the World*



## Cash in on the Selling Power of this NATIONAL ADVERTISING

National advertising is working as a gigantic sales force, sending revolver business direct to Iver Johnson dealers all over the country.

It will work for you, too, if you want a share of this season's business.

The famous safety feature and the assurance of accuracy and dependability combine to make the Iver Johnson an easy-selling revolver—one that stays sold, creates good will, and brings other good business to your store.

Cash in on the Iver Johnson line this season—it's a line that turns over rapidly. Stock the entire line—22, 32, 32 special and 38 calibers, Hammer and Hammerless Models with Regular, Perfect Rubber, and Western Walnut grips. Why not stock Iver Johnson shotguns, too? Then you can capitalize on the entire Iver Johnson line of firearms.

*Write today for firearms catalog and complete dealer information.  
Also ask for information on bicycles and motorcycles.*

### IVER JOHNSON'S ARMS & CYCLE WORKS

354 River Street, Fitchburg, Mass.

99 Chambers St., New York 717 Market St., San Francisco

Reproduced above are a few of the Iver Johnson advertisements that will appear in The Saturday Evening Post, Collier's, Outlook, Leslie's, Argosy, Cosmopolitan, Everybody's, McClure's, Sunset, American Magazine, Metropolitan, Munsey's Red Book, McLean's Magazine (Canadian) and a number of farm papers, juvenile papers, and sporting and scientific magazines.



*"The Safe Revolver to Sell"*



## "Pittsburgh Perfect" ELECTRICALLY WELDED WIRE FENCING

FOR FARM, RANCH, POULTRY, GARDEN AND LAWN PURPOSES

**Y**OUR customers who require WIRE FENCING can be sure of obtaining the best if you sell them "Pittsburgh Perfect" WIRE FENCING. Our many years of experience enables us to make "Pittsburgh Perfect" FENCING in particular, designs, sizes of mesh and heights suited exactly to all special fencing requirements. "Pittsburgh Perfect" FENCING is made of Open Hearth Wire. It is tough, strong and of exactly the proper temper to produce the most effective results. Note, from the insert illustrations above, the "Pittsburgh Perfect" weld. Every contact point is electrically welded in this manner, making the fence practically one piece. "Pittsburgh Perfect" FENCING strings easily on any kind of posts. We use only the best quality of zinc in galvanizing our wire and our process is the most highly improved method known. There are many more features which we would be pleased to tell you about. We also have many splendid and effective dealer helps, all of which you can take advantage of if you become our representative in your territory.

Write today for our literature.  
It is profitable and interesting reading.

**PITTSBURGH STEEL CO.**

General Offices: PITTSBURGH, PA.

New York San Francisco Chicago Memphis Dallas  
Warehouse at Houston, Texas  
Export Department: Equitable Bldg., New York, U. S. A.



## HOT WAFFLES!

Now is the time to sell your customers waffle irons.

People naturally turn to eating waffles at this time of the year.

Stover Waffle Irons are now better than ever. The improvement in the design of the plates, the wood and iron handles, high and low bases and round and square plates give a selection that is not equaled anywhere else.

You can put more life in your waffle iron business if you sell the Stover. Send for Catalog showing these irons and other seasonable hardware.



Open section of plates shows how uniform the Stover Iron makes waffles. It results in quick and easy baking.

### SOME GOODS WE MAKE

Mop Sticks, Fireplace Fixtures, Pulleys (all kinds), Stove Pipe Dampers, Pokers and Lifters, Door Latches, Saw Vises, Coat, Robe and Harness Hooks, Lamp Brackets, Cast Pliers, Hammers and Hatchets, Windmills, Feedmills and Gasoline Engines.

**Stover Mfg. & Engine Co.**  
719 East Street Freeport, Illinois

### Do You Sell Them?

If you are not handling this profitable line—write for our booklets, "Pointers" and "Selling Saws", also our free plans to increase your saw and tool sales.

**E. C. ATKINS & CO., Inc.**  
The Silver Steel Saw People  
INDIANAPOLIS, INDIANA

## What Others Have Done—

**YOU** can do. Stand on the sidewalk any morning and count the number of clean shaven men *passing by*. Now figure the number of blades that are being used right in your own home town.

Would not a

### Hatfield Complete Sharpening Machine

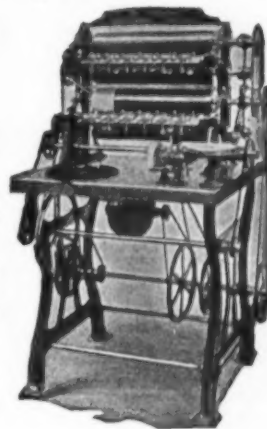
that *sharpens* all makes of razor blades draw these men *into* your store?

It certainly would, and at a profit of from \$5.00 to \$12.00 a day for you.

The "Hatfield" is the *only* machine that puts a perfect velvet hair-splitting edge on blades.

What others have done, you can do.

Send for our catalog—Evidence.



**Hyfield Mfg. Company**  
21 Walker Street New York City

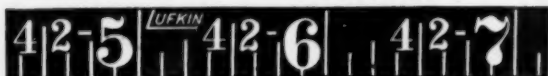
## LUFKIN TAPES



### FAMILIARLY AND FAVORABLY KNOWN

Their reputation, long and well established and maintained assures a ready sale.

Pioneers in connection with the noteworthy tape improvements such as *Instantaneous* readings.



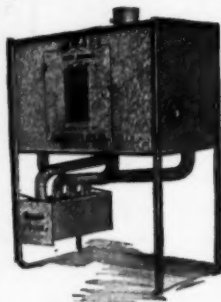
and many other features.



Stocked by Jobbers.

TAPES  
STEEL & WOOD RULES  
SEND FOR CATALOG

**THE LUFKIN RULE CO.**  
SAGINAW, MICH.  
New York



No. 3 Meat Smoker  
Made in 3, 5 and 10  
Hog Sizes

## MR. DEALER

Are you ready to take on a "Meat Smoker" that is built and sold on its merits to the Farmer, thru the Dealer. Not one that is shipped in a package and takes a week to put together, but a big Fireproof, Verm-in proof and Fool-proof Meat Smoker, seated on non-breakable castors that will actually hold all the Meat from Three Hogs. This Smoker is not to be confused with the Mail order variety, and we will back it up with a thirty day trial anywhere you sell one.

Let us send you our catalog of Sheet Metal Products that sell.

**Chatsworth Manufacturing Co.**  
(A Corporation)  
CHATSWORTH, ILLINOIS

## WIRE

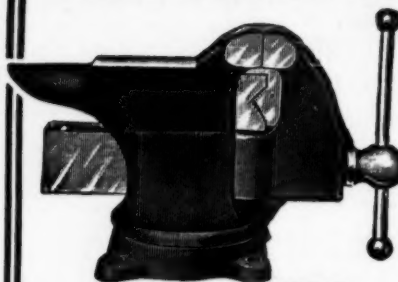
electrical, rope, air-plane, piano, pipeorgan, flat wire (strip steel) hoops, bale-ties, tacks, nails, barbed-wire, concrete reinforcement,

springs, netting, wire fences, steel posts, steel gates, trolley wire and rail bonds, wire wheels, auto-towing cables, horse shoes, round and odd-shape wires for manufacturing.

Illustrated books describing uses, FREE

**American Steel & Wire**  
Chicago—New York Company

## ROCK ISLAND AUTOVISES



This is called our **SWIVEL AUTOVISE**. 3 1/2" jaws, weighing 80 lbs., and is adapted for automobile and heavy repair work. We also make a stationary autovise known as No. 231 with 3" jaws, weighing 32 lbs., and is suitable for the individual automobile owner. These vises are a combination of vise jaws, pipe jaws and anvil.

We make the largest and most complete line of vises.

241—SWIVEL AUTOVISE

Send for our New Catalog

**ROCK ISLAND MFG. CO.**  
ROCK ISLAND, ILLINOIS



## Country Homes need Sash Balances

Sell the CALDWELL. For thirty years they have stood the test of service. Ask your Jobber.

**CALDWELL MFG. CO.**  
30 Jones Street Rochester, N. Y., U.S.A.

## The Sheet Metal Worker—

Be he Apprentice or Journeyman—who fails  
to secure a copy of the

## "XXth Century Sheet Metal Worker"

IS OVERLOOKING A MIGHTY GOOD THING

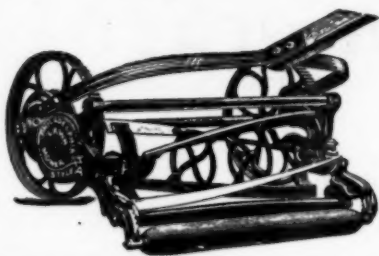
It is new, modern, practical—the work of an experienced sheet metal worker—and told in plain, every-day language, without any frills or trimmings of any kind. In its eighty-six valuable pages there is not one complicated, long-drawn-out explanation, not one mystifying, scientific rule. But there is an abundance of "short cuts," instantaneous helps and suggestions for all kinds of sheet metal work, both simple and complicated—also—illustrated problems and designs with practical descriptions and explanations.

The "XXth Century Sheet Metal Worker" is furnished in flexible cover for 60 cents. Cloth cover for \$1.00. For sale by all book sellers or by

**DANIEL STERN, Publisher and Bookseller**

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# GENUINE "PHILADELPHIA"



## LAWN MOWERS

STYLES "GRAHAM" and "A" All Steel, the only all steel mowers on the market. Our line is the largest, most up-to-date and most complete, a mower for every purpose.

Over fifty years doing one thing well.

22 styles HAND, 5 Styles HORSE, 2 Styles MOTOR.

**THE PHILADELPHIA LAWN MOWER COMPANY**  
31st and Chestnut Streets, PHILADELPHIA, PA.



## STANLEY "PISTOL GRIP" ADJUSTABLE SAW SET No. 42

This Saw Set embodies several unique and important features not heretofore seen in tools of this description.

The shape of the Body and Handle enables the user to operate the tool with great ease and with the least possible exertion, and the Saw is held firmly against the gauge while the tooth is being set.

It can be readily adjusted by means of the knurled thumb screw to give a greater or less set to the teeth of the saw, according as the saw is to be used for coarse or fine work.

The tool is so designed that the saw teeth are in plain view which enables the user to quickly adjust the tool to the tooth to be set.

Send for special circular

**STANLEY RULE & LEVEL CO.**  
NEW BRITAIN, CONN. U.S.A.

## THE NAME "COES"

on a wrench is a  
guarantee of

**Service  
Durability  
Strength  
Satisfaction**

"Coes" wrenches are well known—as staple as nails. They are guaranteed to have 30 per cent greater strength than other makes.

**COES WRENCH CO.**  
WORCESTER, MASS.



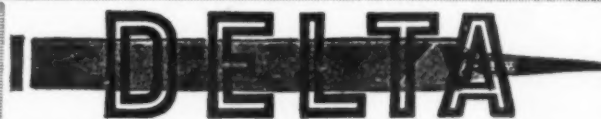
## "FILES OF QUALITY"

The kind of files good mechanics want  
—AND—  
The kind of files live dealers sell.

Know All About Them  
Write for Our Catalog Today

**HELLER BROS. CO.**  
NEWARK, NEW JERSEY

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THE FILE YOU WILL EVENTUALLY BUY



**Delta File Works**

PHILADELPHIA,  
U. S. A.



THE HIGHEST GRADE FILE MADE



# HAPPY NEW YEAR

## *Resolutions are in order*

All contestants arise and raise their right hands.

Resolved—1 That we avoid and correct each mistake we made in window trimming in the year 1919.

Resolved—2 That we make *two good window displays* for *each poor one* which we made in the year 1919.

Resolved—3 That we make *two better window displays* for *each good one* which we made in 1919.

Resolved—4 That we take a more active interest in and devote a larger portion of our time to this most important work.

Resolved—5 That we all enter *one or more photographs* of our *best* window displays in the

## AMERICAN ARTISAN AND HARDWARE RECORD WINDOW DISPLAY COMPETITION

We wish you all a very **Happy New Year**. We trust that the coming year will be one of the biggest you ever had. Make sure of a good start and subscribe to the above set of resolutions. We feel sure they will prove easy to keep and be of great benefit to your business.

This competition will close **February 2, 1920**. You have just a short while in which to enter *your photographs* so start now to arrange attractive window displays. Read the complete details below and make up your mind *now* to try for a *cash prize*.

*Competition Open to All Hardware Dealers or Their Clerks*

# \$100.00 IN CASH PRIZES

ARE OFFERED FOR THE BEST WINDOW DISPLAY PHOTOGRAPHS OF

General Hardware, Machinists' Supplies, Builders' Hardware, Automobile Supplies, Sporting Goods, Fishing Tackle, House Furnishings, Cutlery, Dairy Supplies, Stoves, Ranges, Warm Air Heaters, Sheet Metal or kindred lines.

### DISTRIBUTION OF PRIZES

**FIRST PRIZE** —\$50.00 in cash for the best photograph and description received of a window display of hardware or kindred lines.

**SECOND PRIZE** —\$25.00 in cash for the photograph and description judged second in excellence.

**THIRD PRIZE** —\$15.00 in cash for the photograph and description judged third in excellence.

**FOURTH PRIZE** —\$10.00 in cash for the photograph and description judged fourth in excellence.

### CONDITIONS OF COMPETITION

The photograph, together with descriptions of how the window displays were arranged and the materials used, may be sent by mail or express, charges prepaid, and must reach this office not later than February 2nd, 1920.

Each photograph and description must be signed by a fictitious name or device and the same name or device must be placed within a sealed envelope containing the real name and address of the contestant. This sealed envelope is to be enclosed with the photograph. Contestants may enter as many window displays as they desire.

AMERICAN ARTISAN AND HARDWARE RECORD reserves the right to publish all photographs and descriptions submitted in this competition.

### AWARD OF PRIZES

A competition committee of three will be appointed, one of whom will be an expert window dresser and one an experienced hardware man. This committee will pass upon the merits of all photographs and descriptions received, without knowing the names or addresses of the senders, and will decide the winners of the contest.

ADDRESS ALL PHOTOGRAPHS AND DESCRIPTIONS TO

**AMERICAN ARTISAN AND HARDWARE RECORD PRIZE COMPETITION**  
**620 South Michigan Avenue** **CHICAGO, ILLINOIS**

# Happy New Year

.....

**M**AY the joy of the holiday season be with you throughout the entire coming year. It is our desire at this time to express the wish for the continued prosperity of all our customers. Gladly did we transact your business the past year. More gladly will we anticipate it this **NEW AND HOPEFUL YEAR.**

**A** GAIN we say: A **HAPPY NEW YEAR.** May good cheer and satisfaction be with you every hour of the day during 1920. And may we ask that our cordial relations continue through the coming year, for our greatest asset is the good will of our customers.

.....

## BULLARD & GORMLEY CO.

*WHOLESALE HARDWARE*

Sporting Goods, Fishing Tackle,  
General and Builders' Hardware  
Mechanics' Tools and Cutlery

173-175 No. State St.


8-10 Couch Place

7-9 E. Lake Street

**CHICAGO, ILLINOIS**

# "MILCOR"

## SHEET METAL PRODUCTS



"MILCOR" SELF CAP

EXPANDED DIAMOND

"NU" MARK

"Daylight" WINDOW

QUALITY  
"MILCOR"  
TRADE MARK  
PRICE

**MILWAUKEE CORRUGATING COMPANY**  
MILWAUKEE · WIS.

BRANCH AT KANSAS CITY, MO. MINNEAPOLIS SALES OFFICE, LUMBER EXCHANGE

